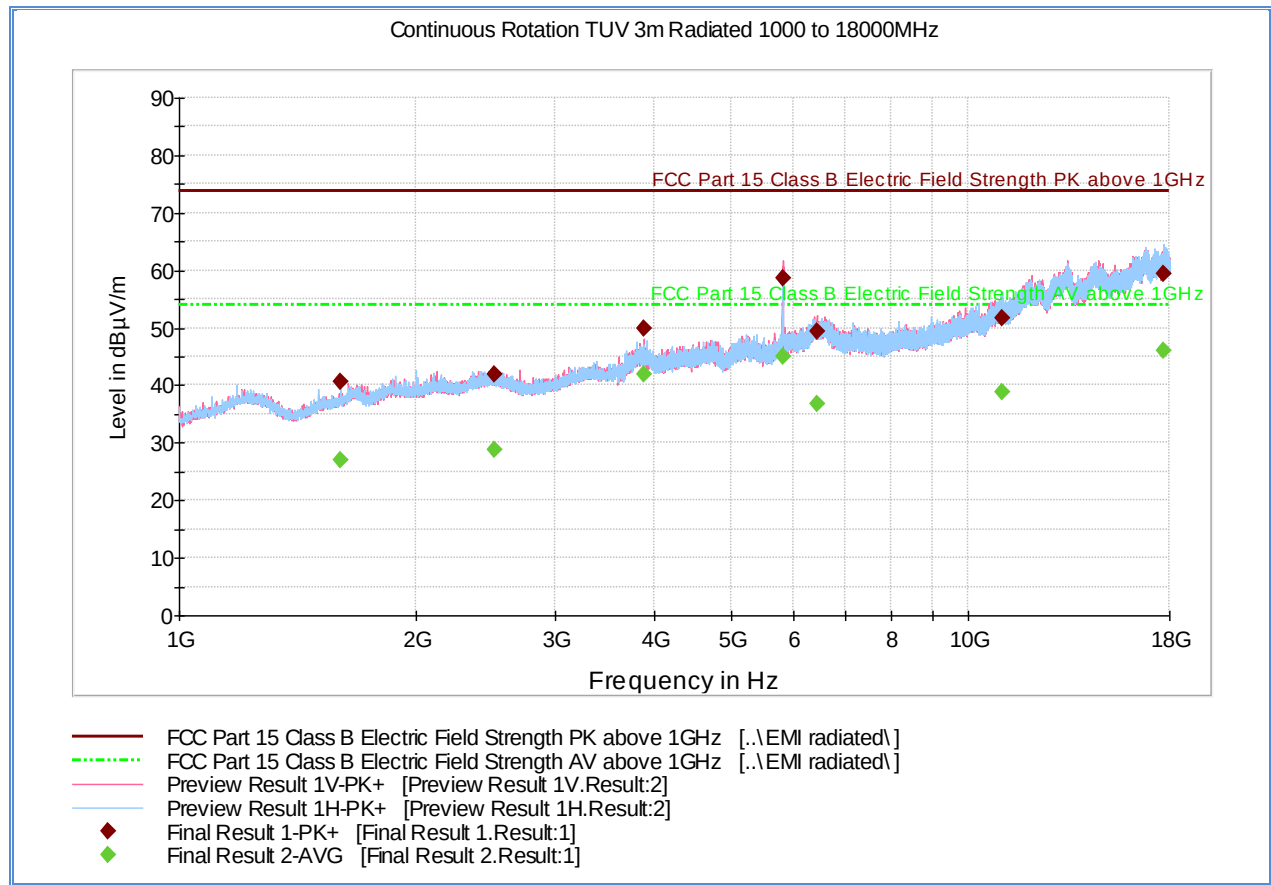


2.7.37 Test Results Above 1GHz (Tx – MIMO Mode)_Worst Case Configuration
802.11n 5GHz(HT20)_High(165) Channel (5825MHz)_6.5Mbps Data Rate



Peak Data

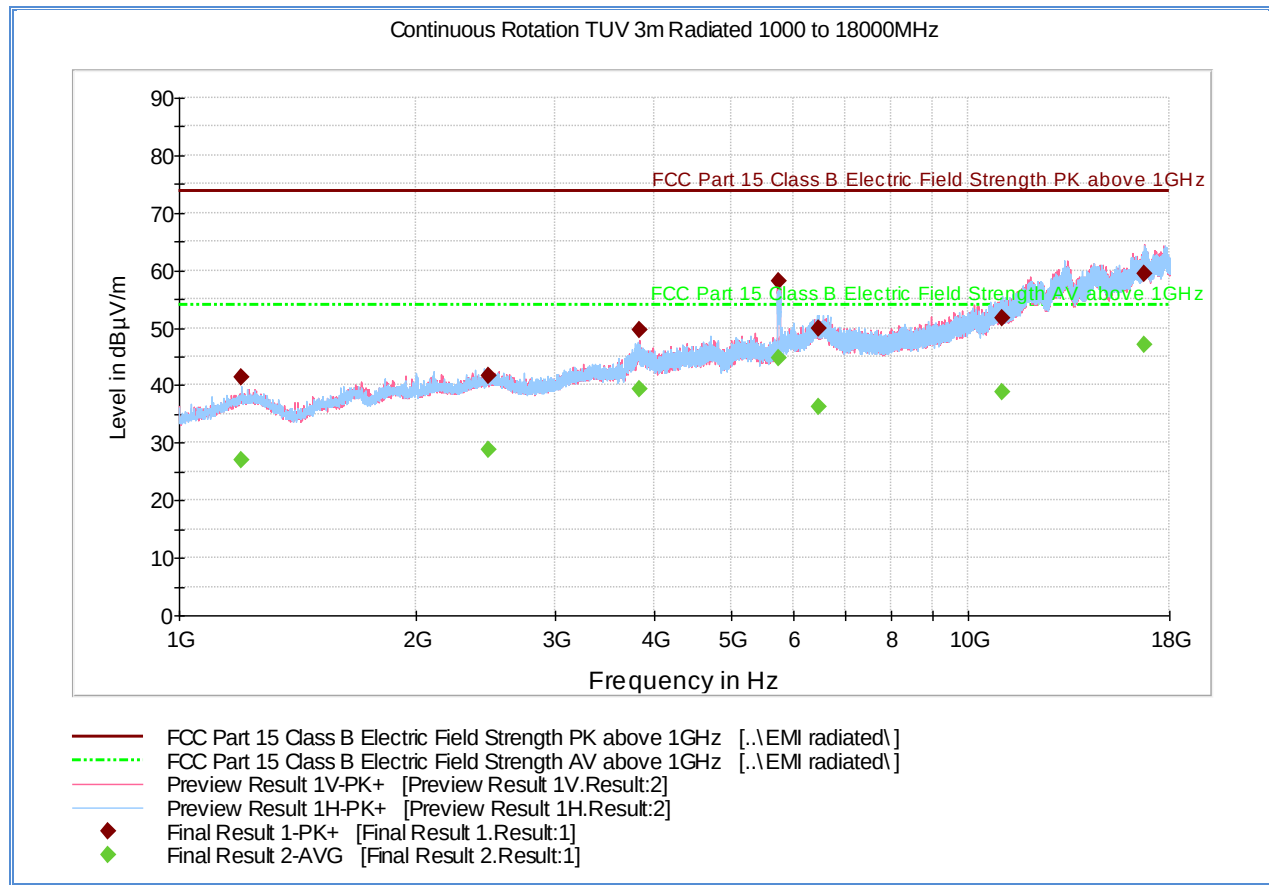
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1600.300000	40.5	1000.0	1000.000	146.7	H	268.0	-4.9	33.4	73.9
2506.200000	41.9	1000.0	1000.000	359.1	V	108.0	0.2	32.0	73.9
3883.400000	49.8	1000.0	1000.000	347.1	V	24.0	6.0	24.1	73.9
5826.733333	58.7	1000.0	1000.000	153.7	V	61.0	Fundamental		
6423.566667	49.5	1000.0	1000.000	277.2	V	77.0	12.7	24.4	73.9
11068.73333	51.6	1000.0	1000.000	404.1	H	150.0	16.7	22.3	73.9
17704.23333	59.4	1000.0	1000.000	170.6	H	101.0	25.6	14.5	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1600.300000	27.1	1000.0	1000.000	146.7	H	268.0	-4.9	26.8	53.9
2506.200000	28.8	1000.0	1000.000	359.1	V	108.0	0.2	25.1	53.9
3883.400000	41.9	1000.0	1000.000	347.1	V	24.0	6.0	12.0	53.9
5826.733333	45.1	1000.0	1000.000	153.7	V	61.0	Fundamental		
6423.566667	36.7	1000.0	1000.000	277.2	V	77.0	12.7	17.2	53.9
11068.73333	38.8	1000.0	1000.000	404.1	H	150.0	16.7	15.1	53.9
17704.23333	46.1	1000.0	1000.000	170.6	H	101.0	25.6	7.8	53.9

Test Notes: Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.

**2.7.38 Test Results Above 1GHz (Tx – MIMO Mode)_Worst Case Configuration
802.11n 5GHz(HT40)_Low(151) Channel (5755MHz)_13.5Mbps Data Rate**



Peak Data

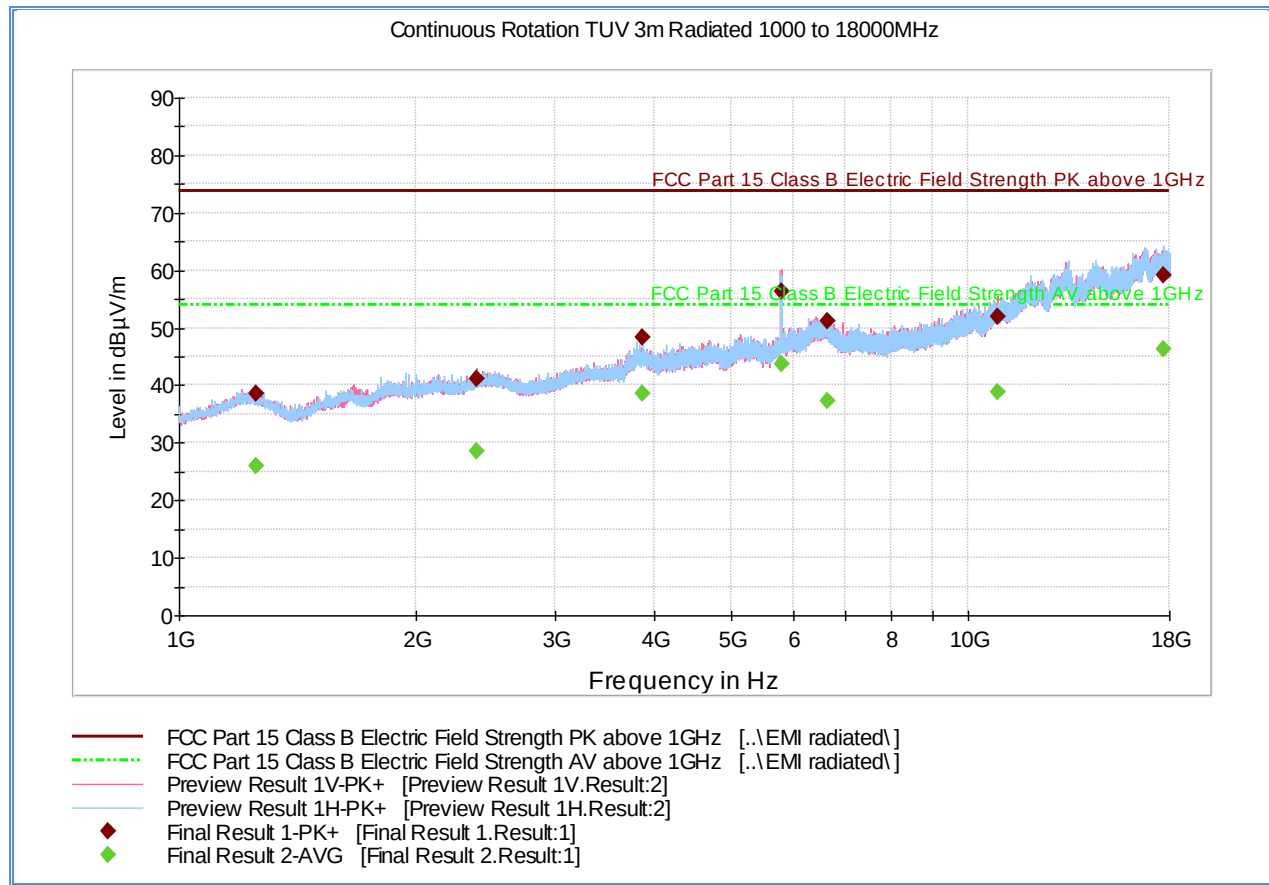
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.266667	41.3	1000.0	1000.000	287.2	H	315.0	-5.7	32.6	73.9
2469.500000	41.8	1000.0	1000.000	404.1	H	157.0	0.1	32.1	73.9
3836.933333	49.5	1000.0	1000.000	139.7	V	341.0	6.1	24.4	73.9
5743.566667	58.2	1000.0	1000.000	368.1	H	309.0	Fundamental		
6465.633333	49.9	1000.0	1000.000	170.6	H	130.0	12.7	24.0	73.9
11066.966666	51.6	1000.0	1000.000	172.6	H	18.0	16.7	22.3	73.9
16760.533333	59.3	1000.0	1000.000	162.6	V	309.0	25.9	14.6	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1199.266667	27.1	1000.0	1000.000	287.2	H	315.0	-5.7	26.8	53.9
2469.500000	28.9	1000.0	1000.000	404.1	H	157.0	0.1	25.0	53.9
3836.933333	39.3	1000.0	1000.000	139.7	V	341.0	6.1	14.6	53.9
5743.566667	44.8	1000.0	1000.000	368.1	H	309.0	Fundamental		
6465.633333	36.4	1000.0	1000.000	170.6	H	130.0	12.7	17.5	53.9
11066.966666	38.9	1000.0	1000.000	172.6	H	18.0	16.7	15.0	53.9
16760.533333	47.0	1000.0	1000.000	162.6	V	309.0	25.9	6.9	53.9

Test Notes: Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.

**2.7.39 Test Results Above 1GHz (Tx – MIMO Mode)_Worst Case Configuration
802.11n 5GHz(HT40)_Mid(157) Channel (5785MHz)_13.5Mbps Data Rate**



Peak Data

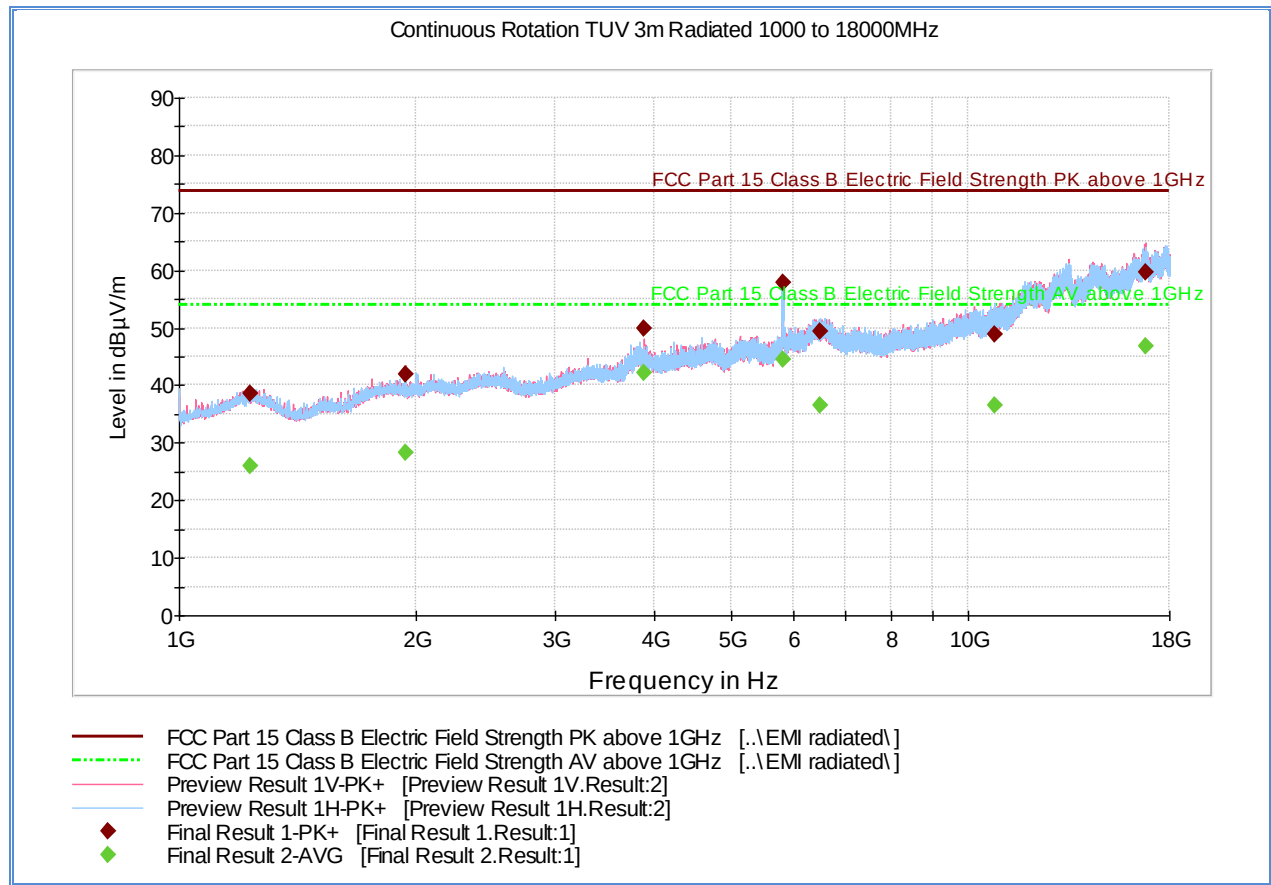
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1253.133333	38.5	1000.0	1000.000	404.1	H	241.0	-5.3	35.4	73.9
2386.300000	41.2	1000.0	1000.000	268.3	V	307.0	-0.2	32.7	73.9
3863.400000	48.4	1000.0	1000.000	333.1	H	-20.0	6.0	25.5	73.9
5797.833333	56.2	1000.0	1000.000	121.7	V	87.0	Fundamental		
6622.300000	51.2	1000.0	1000.000	103.7	V	90.0	12.7	22.7	73.9
10924.066666	51.8	1000.0	1000.000	202.5	V	315.0	16.8	22.1	73.9
17726.166666	59.1	1000.0	1000.000	99.7	H	339.0	25.7	14.8	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1253.133333	25.9	1000.0	1000.000	404.1	H	241.0	-5.3	28.0	53.9
2386.300000	28.6	1000.0	1000.000	268.3	V	307.0	-0.2	25.3	53.9
3863.400000	38.6	1000.0	1000.000	333.1	H	-20.0	6.0	15.3	53.9
5797.833333	43.8	1000.0	1000.000	121.7	V	87.0	Fundamental		
6622.300000	37.3	1000.0	1000.000	103.7	V	90.0	12.7	16.6	53.9
10924.066666	38.9	1000.0	1000.000	202.5	V	315.0	16.8	15.0	53.9
17726.166666	46.2	1000.0	1000.000	99.7	H	339.0	25.7	7.7	53.9

Test Notes: Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.

**2.7.40 Test Results Above 1GHz (Tx – MIMO Mode)_Worst Case Configuration
802.11n 5GHz(HT40)_High(163) Channel (5815MHz)_13.5Mbps Data Rate**



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1232.766667	38.6	1000.0	1000.000	303.2	V	278.0	-5.5	35.3	73.9
1937.100000	41.8	1000.0	1000.000	219.4	V	151.0	-1.4	32.1	73.9
3876.600000	49.9	1000.0	1000.000	403.9	V	0.0	6.0	24.0	73.9
5824.000000	57.8	1000.0	1000.000	333.1	H	290.0	Fundamental		
6495.766667	49.3	1000.0	1000.000	238.4	H	186.0	12.7	24.6	73.9
10831.23333	48.9	1000.0	1000.000	102.7	H	113.0	16.5	25.0	73.9
16801.13333	59.7	1000.0	1000.000	116.7	V	94.0	25.9	14.2	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1232.766667	26.1	1000.0	1000.000	303.2	V	278.0	-5.5	27.8	53.9
1937.100000	28.2	1000.0	1000.000	219.4	V	151.0	-1.4	25.7	53.9
3876.600000	42.3	1000.0	1000.000	403.9	V	0.0	6.0	11.6	53.9
5824.000000	44.6	1000.0	1000.000	333.1	H	290.0	Fundamental		
6495.766667	36.4	1000.0	1000.000	238.4	H	186.0	12.7	17.5	53.9
10831.23333	36.4	1000.0	1000.000	102.7	H	113.0	16.5	17.5	53.9
16801.13333	46.8	1000.0	1000.000	116.7	V	94.0	25.9	7.1	53.9

Test Notes: Measurement was performed with a 5GHz notch filter. No significant emissions observed above 8GHz. Measurement above 8GHz are noise floor figures.



2.8 RADIATED BAND EDGE MEASUREMENTS AND IMMEDIATE RESTRICTED BANDS

2.8.1 Specification Reference

Part 15 Subpart C §15.247(d)

2.8.2 Standard Applicable

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.8.3 Equipment Under Test and Modification State

Serial No: **Error! Reference source not found.** / Test Configuration B

2.8.4 Date of Test/Initial of test personnel who performed the test

March 23 to March 26, 2015 / AC and IR

2.8.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.8.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	23.3°C
Relative Humidity	50.0%
ATM Pressure	99.9 kPa

2.8.7 Additional Observations

- This is a radiated test. The spectrum was searched from 2310MHz to 2390MHz for lower immediate restricted band and 2483.5MHz to 2500MHz for the upper immediate restricted band.
- There are no emissions found that do not comply with the restricted bands defined in FCC Part 15 Subpart C, 15.205.
- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.8.8 for sample computation.



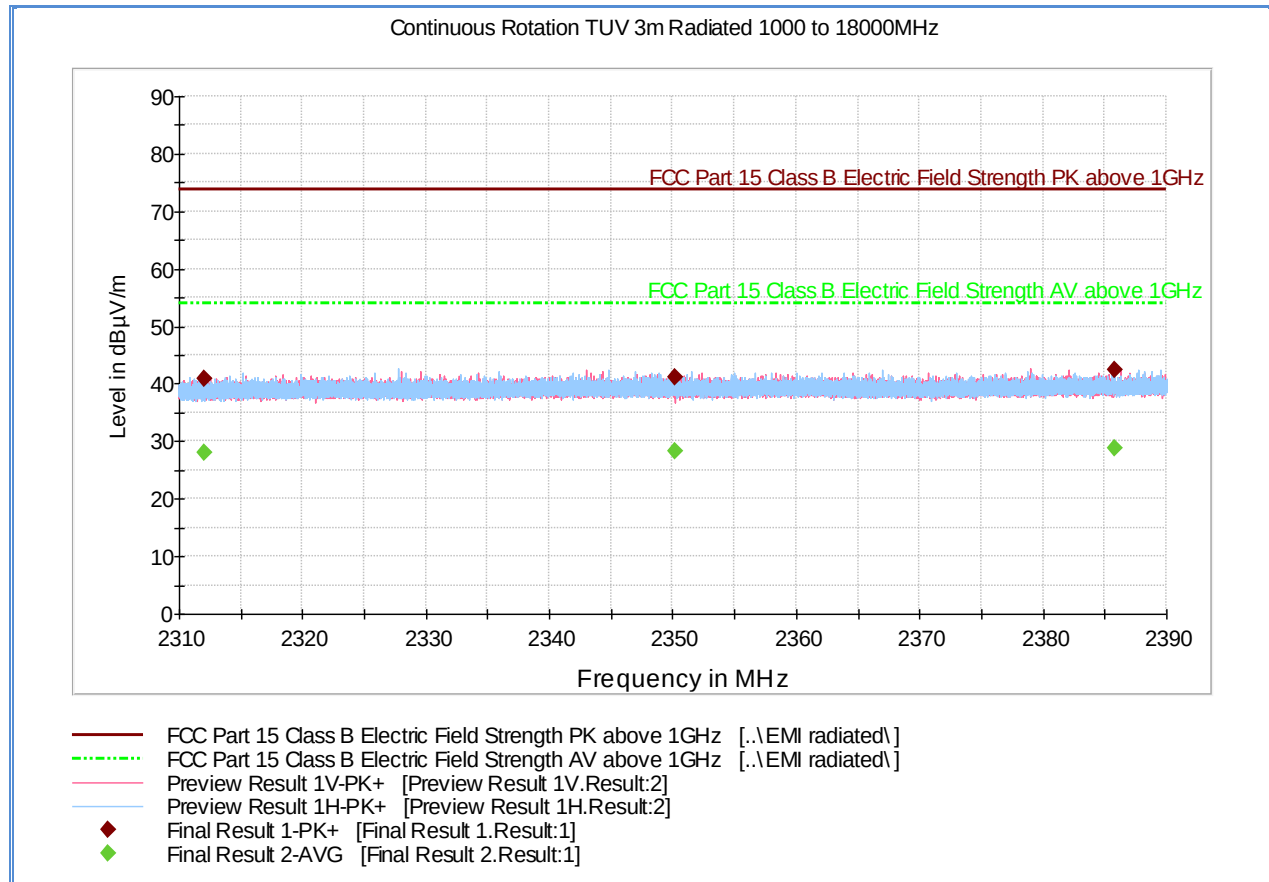
2.8.8 Sample Computation (Radiated Emission)

Measuring equipment raw measurement (db μ V) @ 2400 MHz			53.9
Correction Factor (dB)	Asset# 1153 (cable)	3.4	-0.4
	Asset# 8628(preamplifier)	-36.5	
	Asset#7575 (antenna)	32.7	
Reported Max Peak Final Measurement (dbμV/m) @ 2400 MHz			53.5

2.8.9 Test Results

See attached plots.

2.8.10 Test Results Restricted Band 2310MHz to 2390MHz (SISO 802.11b Channel 1)



Peak Data

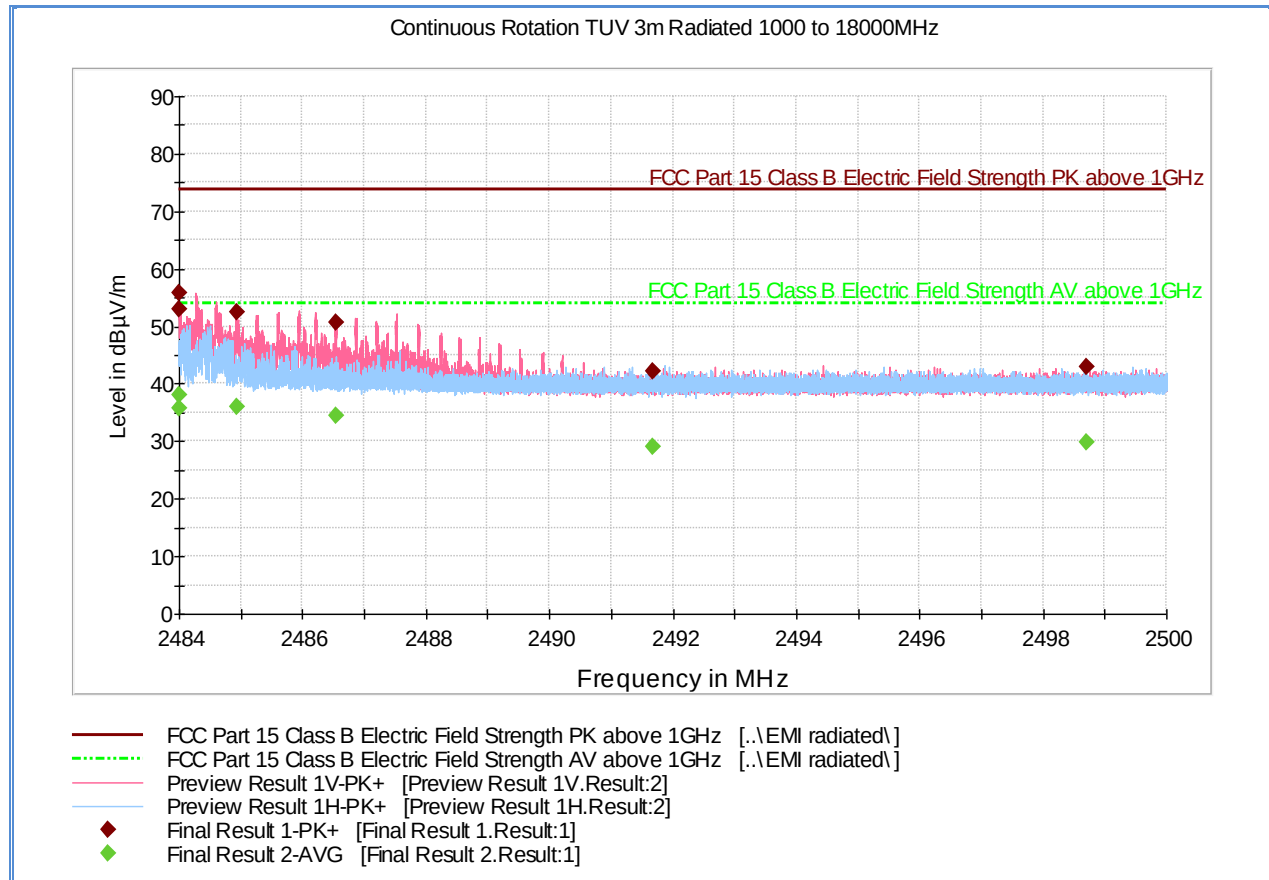
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2311.989333	40.8	1000.0	1000.000	163.6	V	107.0	-1.1	33.1	73.9
2350.202667	41.2	1000.0	1000.000	403.4	V	68.0	-0.8	32.7	73.9
2385.749333	42.5	1000.0	1000.000	148.7	V	97.0	-0.7	31.4	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2311.989333	27.9	1000.0	1000.000	163.6	V	107.0	-1.1	26.0	53.9
2350.202667	28.3	1000.0	1000.000	403.4	V	68.0	-0.8	25.6	53.9
2385.749333	28.7	1000.0	1000.000	148.7	V	97.0	-0.7	25.2	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.11 Test Results Restricted Band 2483.5MHz to 2500MHz (SISO 802.11b Channel 11)



Peak Data

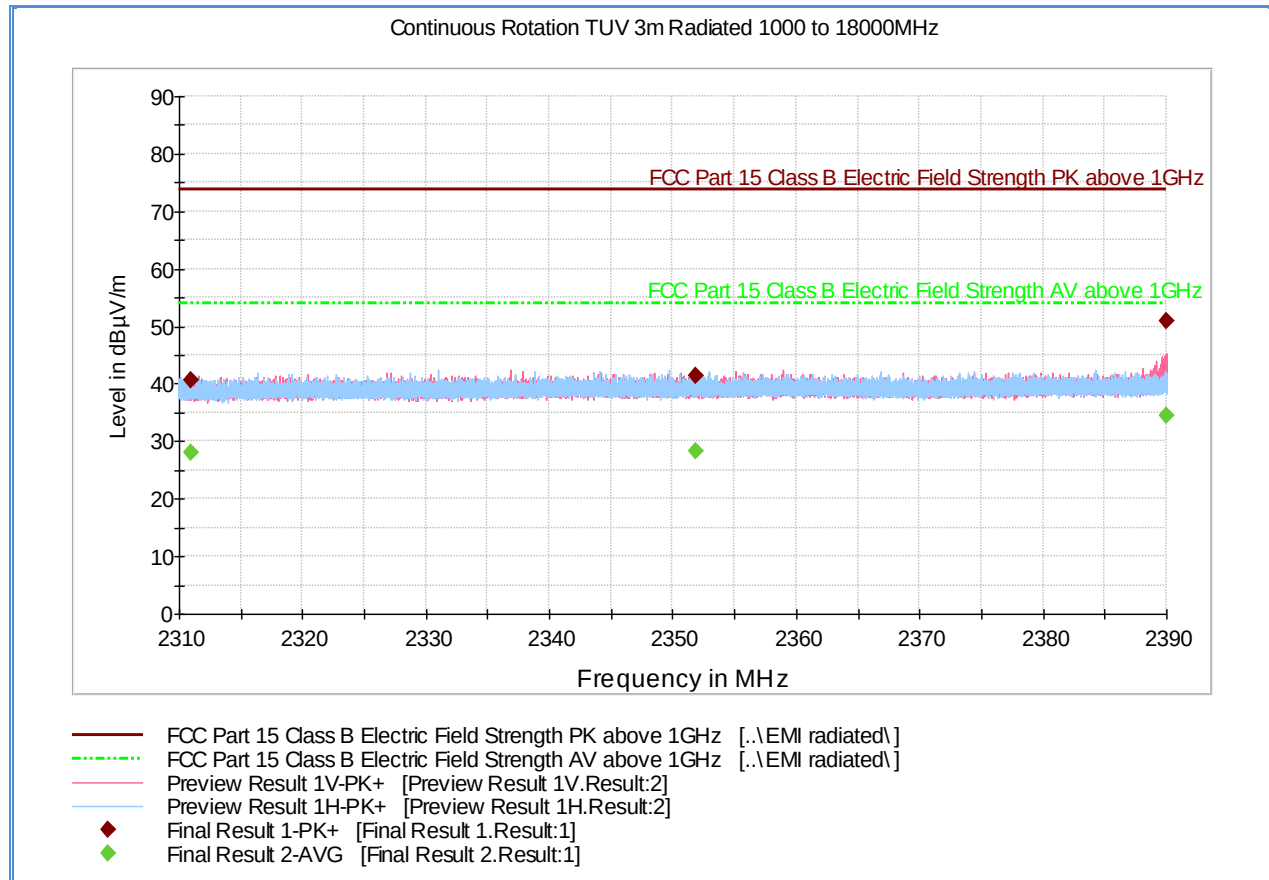
Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2484.000000	55.9	1000.0	1000.000	103.7	V	280.0	-0.1	18.0	73.9
2484.000000	53.0	1000.0	1000.000	183.5	V	287.0	-0.1	20.9	73.9
2484.932800	52.4	1000.0	1000.000	178.6	V	287.0	-0.1	21.5	73.9
2486.531200	50.6	1000.0	1000.000	103.7	V	280.0	-0.1	23.3	73.9
2491.678933	42.1	1000.0	1000.000	379.1	H	292.0	-0.1	31.8	73.9
2498.714133	42.8	1000.0	1000.000	278.3	V	248.0	-0.1	31.1	73.9

Average Data

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2484.000000	38.0	1000.0	1000.000	103.7	V	280.0	-0.1	15.9	53.9
2484.000000	35.7	1000.0	1000.000	183.5	V	287.0	-0.1	18.2	53.9
2484.932800	36.1	1000.0	1000.000	178.6	V	287.0	-0.1	17.8	53.9
2486.531200	34.4	1000.0	1000.000	103.7	V	280.0	-0.1	19.5	53.9
2491.678933	29.1	1000.0	1000.000	379.1	H	292.0	-0.1	24.8	53.9
2498.714133	29.8	1000.0	1000.000	278.3	V	248.0	-0.1	24.1	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.12 Test Results Restricted Band 2310MHz to 2390MHz (SISO 802.11g Channel 1)



Peak Data

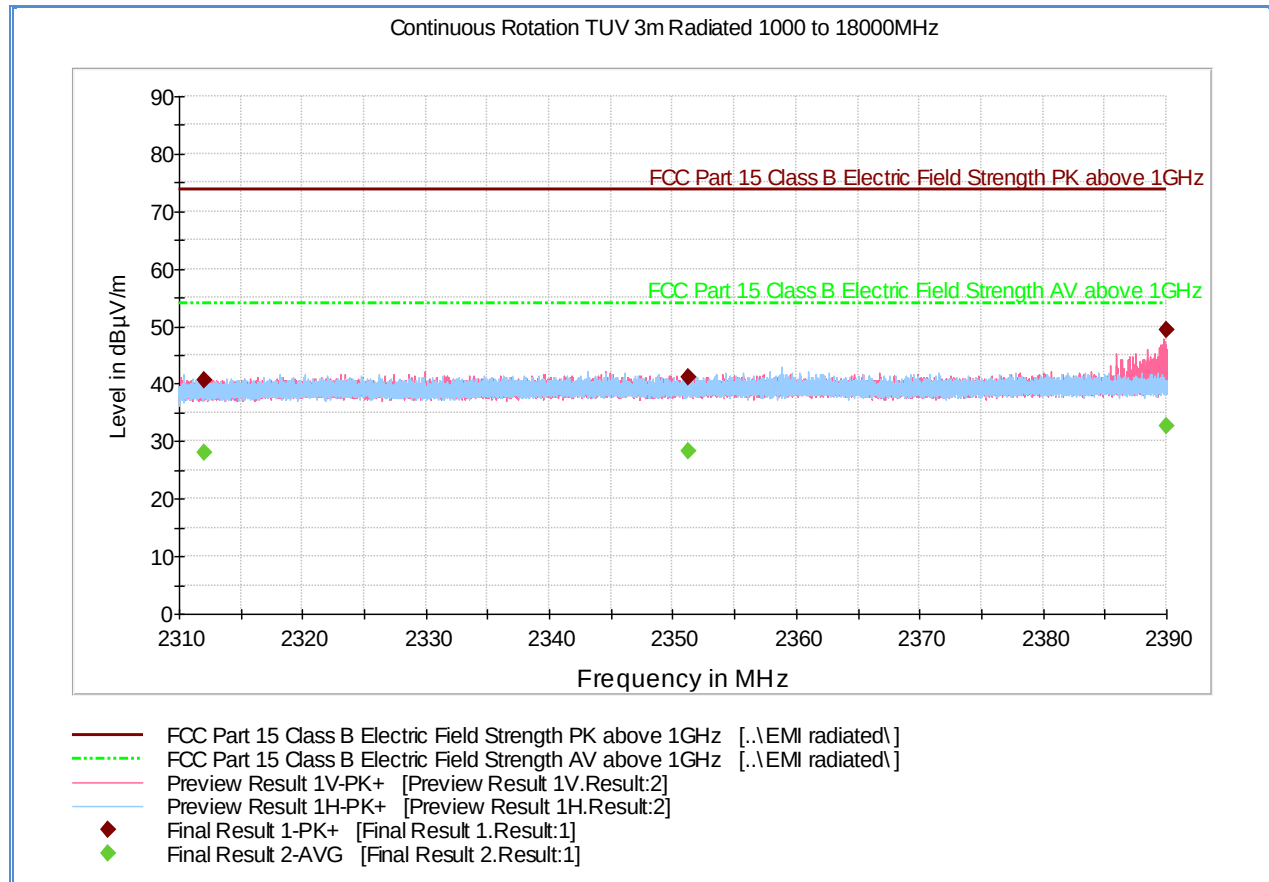
Frequency (MHz)	MaxPeak (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
2310.997333	40.7	1000.0	1000.000	256.3	V	345.0	-1.1	33.2	73.9
2351.818667	41.3	1000.0	1000.000	236.4	H	239.0	-0.8	32.6	73.9
2390.000000	50.9	1000.0	1000.000	99.7	V	285.0	-0.6	23.0	73.9

Average Data

Frequency (MHz)	Average (dB μ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
2310.997333	28.0	1000.0	1000.000	256.3	V	345.0	-1.1	25.9	53.9
2351.818667	28.3	1000.0	1000.000	236.4	H	239.0	-0.8	25.6	53.9
2390.000000	34.4	1000.0	1000.000	99.7	V	285.0	-0.6	19.5	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.13 Test Results Restricted Band 2310MHz to 2390MHz (SISO 802.11g Channel 2)



Peak Data

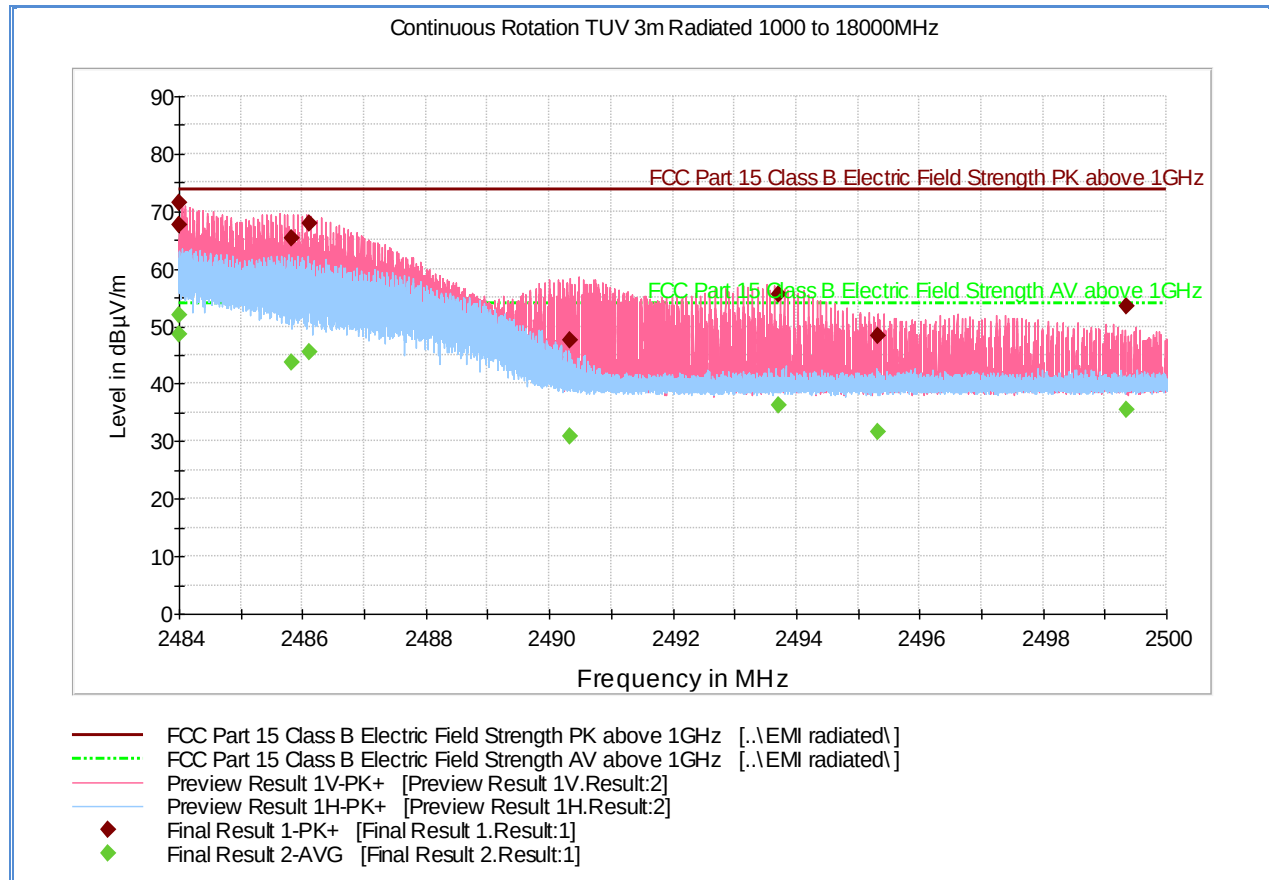
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.024000	40.5	1000.0	1000.000	403.4	V	316.0	-1.1	33.4	73.9
2351.304000	41.0	1000.0	1000.000	131.7	V	3.0	-0.8	32.9	73.9
2390.000000	49.5	1000.0	1000.000	102.7	V	285.0	-0.6	24.4	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.024000	27.9	1000.0	1000.000	403.4	V	316.0	-1.1	26.0	53.9
2351.304000	28.3	1000.0	1000.000	131.7	V	3.0	-0.8	25.6	53.9
2390.000000	32.7	1000.0	1000.000	102.7	V	285.0	-0.6	21.2	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.14 Test Results Restricted Band 2483.5MHz to 2500MHz (SISO 802.11g Channel 10)



Peak Data

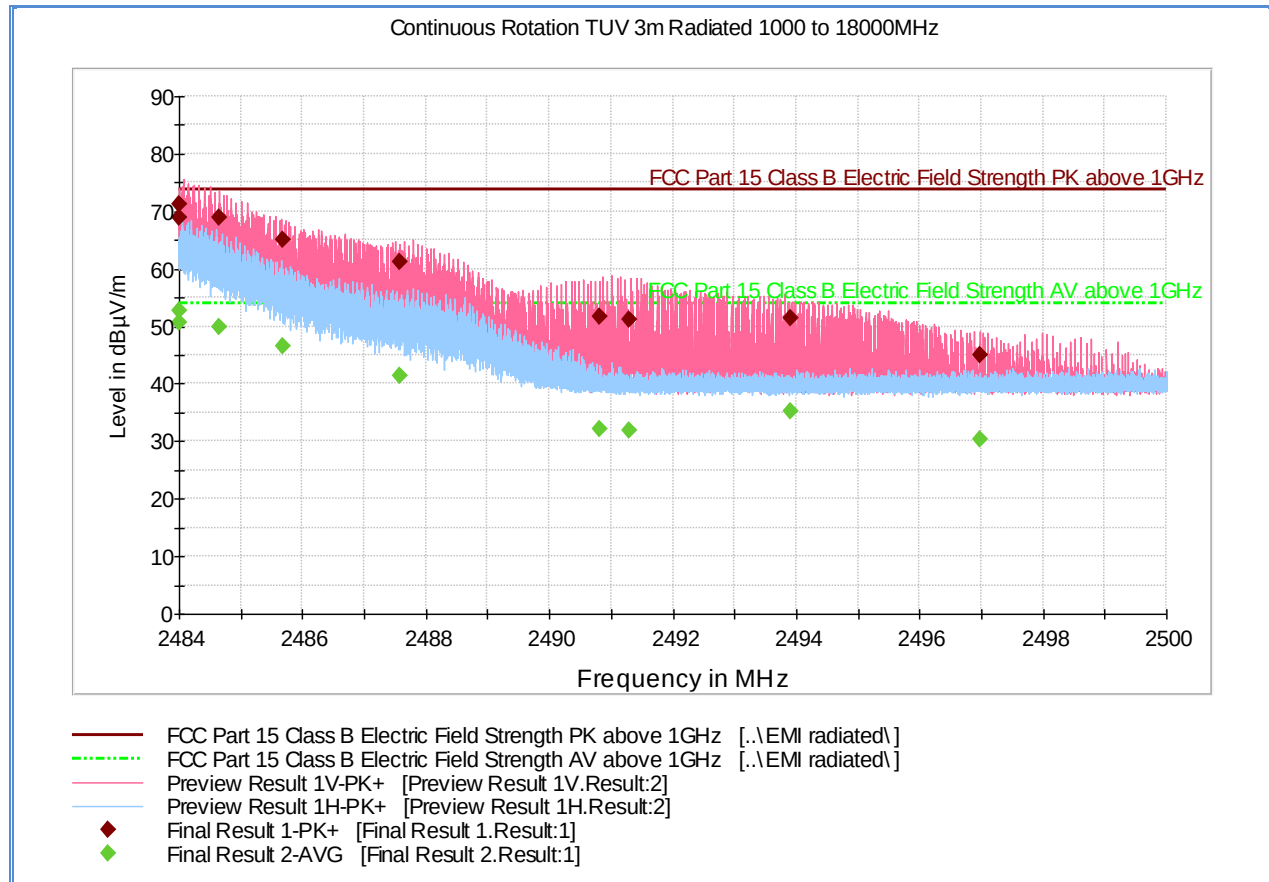
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	71.5	1000.0	1000.000	101.7	V	280.0	-0.1	2.4	73.9
2484.000000	67.7	1000.0	1000.000	181.6	V	287.0	-0.1	6.2	73.9
2485.811200	65.3	1000.0	1000.000	183.5	V	286.0	-0.1	8.6	73.9
2486.103467	67.9	1000.0	1000.000	102.7	V	280.0	-0.1	6.0	73.9
2490.342933	47.7	1000.0	1000.000	201.3	V	288.0	-0.1	26.2	73.9
2493.713067	55.4	1000.0	1000.000	102.7	V	280.0	-0.1	18.5	73.9
2495.321067	48.4	1000.0	1000.000	103.7	V	280.0	-0.1	25.5	73.9
2499.360533	53.5	1000.0	1000.000	99.7	V	280.0	-0.1	20.4	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	51.9	1000.0	1000.000	101.7	V	280.0	-0.1	2.0	53.9
2484.000000	48.6	1000.0	1000.000	181.6	V	287.0	-0.1	5.3	53.9
2485.811200	43.6	1000.0	1000.000	183.5	V	286.0	-0.1	10.3	53.9
2486.103467	45.5	1000.0	1000.000	102.7	V	280.0	-0.1	8.4	53.9
2490.342933	30.8	1000.0	1000.000	201.3	V	288.0	-0.1	23.1	53.9
2493.713067	36.2	1000.0	1000.000	102.7	V	280.0	-0.1	17.7	53.9
2495.321067	31.6	1000.0	1000.000	103.7	V	280.0	-0.1	22.3	53.9
2499.360533	35.6	1000.0	1000.000	99.7	V	280.0	-0.1	18.3	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.15 Test Results Restricted Band 2483.5MHz to 2500MHz (SISO 802.11g Channel 11)



Peak Data

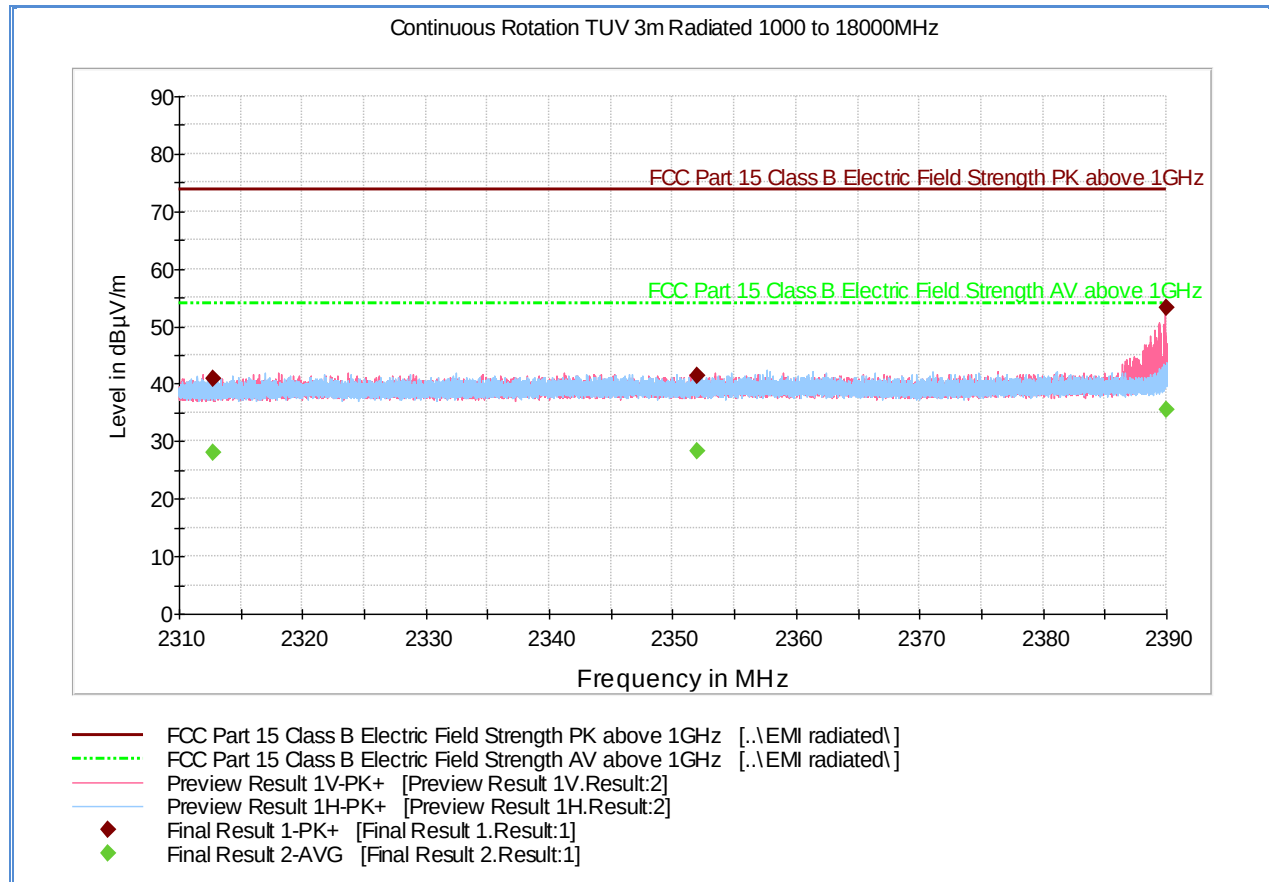
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	71.2	1000.0	1000.000	180.6	V	290.0	-0.1	2.7	73.9
2484.000000	68.9	1000.0	1000.000	148.7	V	289.0	-0.1	5.0	73.9
2484.644800	68.9	1000.0	1000.000	180.6	V	305.0	-0.1	5.0	73.9
2485.678400	65.0	1000.0	1000.000	123.7	V	276.0	-0.1	8.9	73.9
2487.579200	61.2	1000.0	1000.000	123.7	V	276.0	-0.1	12.7	73.9
2490.811200	51.6	1000.0	1000.000	123.7	V	276.0	-0.1	22.3	73.9
2491.285333	51.2	1000.0	1000.000	123.7	V	276.0	-0.1	22.7	73.9
2493.915733	51.5	1000.0	1000.000	181.6	V	298.0	-0.1	22.4	73.9
2496.982933	45.0	1000.0	1000.000	178.6	V	289.0	-0.1	28.9	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	52.7	1000.0	1000.000	180.6	V	290.0	-0.1	1.2	53.9
2484.000000	50.6	1000.0	1000.000	148.7	V	289.0	-0.1	3.3	53.9
2484.644800	49.9	1000.0	1000.000	180.6	V	305.0	-0.1	4.0	53.9
2485.678400	46.7	1000.0	1000.000	123.7	V	276.0	-0.1	7.2	53.9
2487.579200	41.4	1000.0	1000.000	123.7	V	276.0	-0.1	12.5	53.9
2490.811200	32.2	1000.0	1000.000	123.7	V	276.0	-0.1	21.7	53.9
2491.285333	32.0	1000.0	1000.000	123.7	V	276.0	-0.1	21.9	53.9
2493.915733	35.3	1000.0	1000.000	181.6	V	298.0	-0.1	18.6	53.9
2496.982933	30.3	1000.0	1000.000	178.6	V	289.0	-0.1	23.6	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.16 Test Results Restricted Band 2310MHz to 2390MHz (SISO 802.11n ht20 Channel 1)



Peak Data

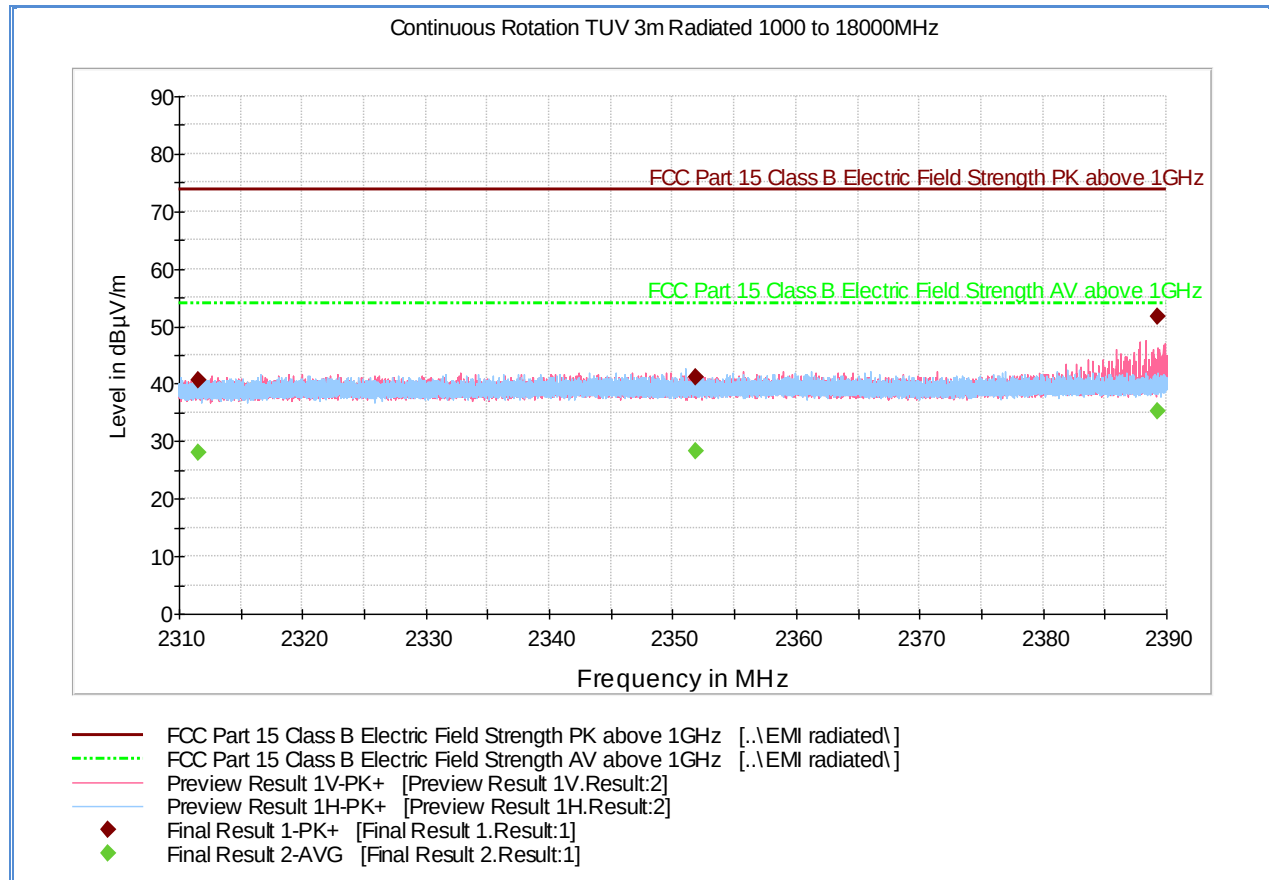
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.762667	40.9	1000.0	1000.000	114.7	V	90.0	-1.1	33.0	73.9
2351.925333	41.4	1000.0	1000.000	124.7	V	163.0	-0.8	32.5	73.9
2390.000000	53.3	1000.0	1000.000	102.7	V	284.0	-0.6	20.6	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.762667	28.0	1000.0	1000.000	114.7	V	90.0	-1.1	25.9	53.9
2351.925333	28.3	1000.0	1000.000	124.7	V	163.0	-0.8	25.6	53.9
2390.000000	35.4	1000.0	1000.000	102.7	V	284.0	-0.6	18.5	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.17 Test Results Restricted Band 2310MHz to 2390MHz (SISO 802.11n ht20 Channel 2)



Peak Data

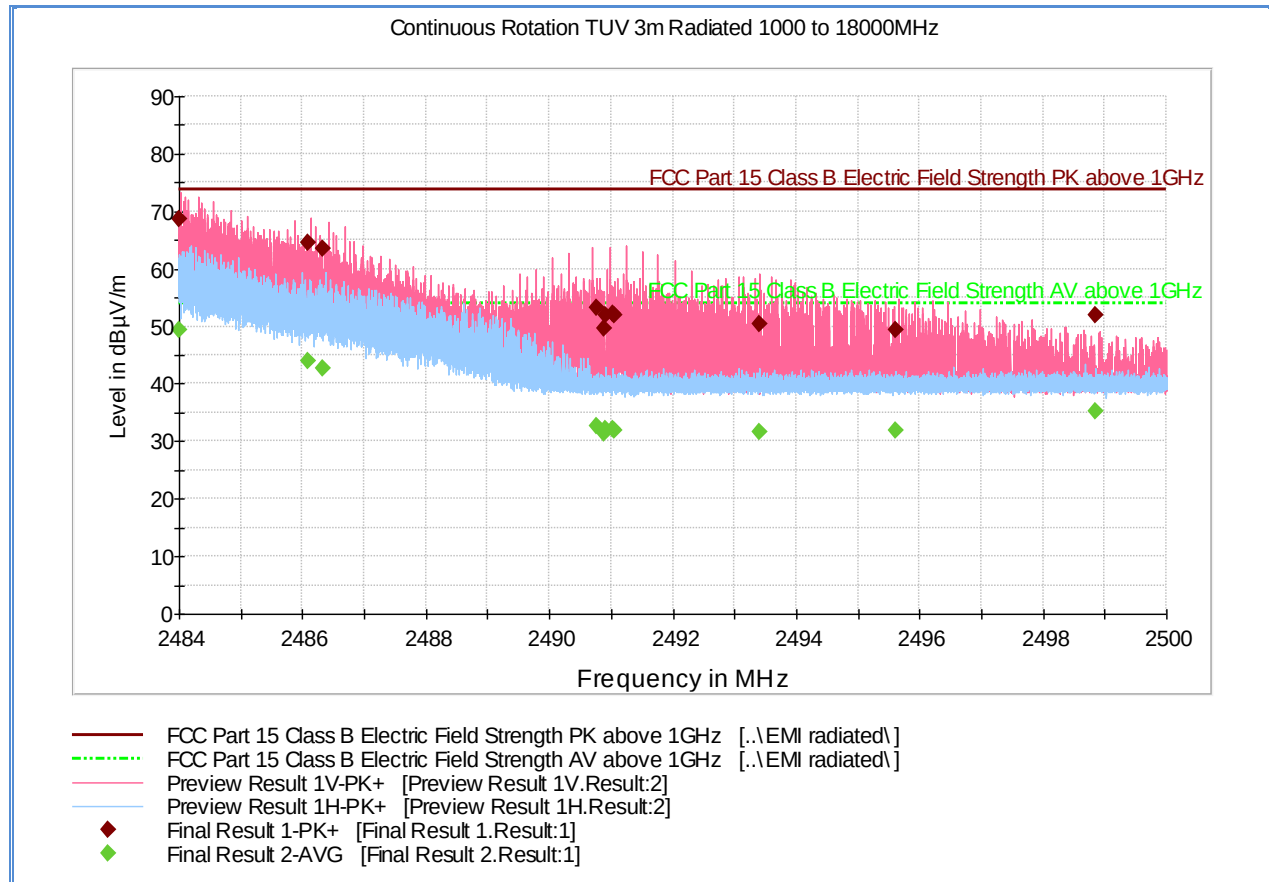
Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2311.546667	40.6	1000.0	1000.000	312.2	V	180.0	-1.1	33.3	73.9
2351.802667	41.2	1000.0	1000.000	278.3	H	334.0	-0.8	32.7	73.9
2389.282667	51.7	1000.0	1000.000	99.7	V	285.0	-0.6	22.2	73.9

Average Data

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2311.546667	28.0	1000.0	1000.000	312.2	V	180.0	-1.1	25.9	53.9
2351.802667	28.3	1000.0	1000.000	278.3	H	334.0	-0.8	25.6	53.9
2389.282667	35.1	1000.0	1000.000	99.7	V	285.0	-0.6	18.8	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.18 Test Results Restricted Band 2483.5MHz to 2500MHz (SISO 802.11n ht20 Channel 10)



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	68.7	1000.0	1000.000	179.5	V	288.0	-0.1	5.2	73.9
2486.092267	64.6	1000.0	1000.000	180.6	V	284.0	-0.1	9.3	73.9
2486.323200	63.4	1000.0	1000.000	180.6	V	289.0	-0.1	10.5	73.9
2490.772800	53.2	1000.0	1000.000	102.7	V	284.0	-0.1	20.7	73.9
2490.887467	49.7	1000.0	1000.000	182.6	V	289.0	-0.1	24.2	73.9
2490.899200	51.9	1000.0	1000.000	180.6	V	288.0	-0.1	22.0	73.9
2491.025600	52.1	1000.0	1000.000	180.6	V	289.0	-0.1	21.8	73.9
2491.041067	51.8	1000.0	1000.000	181.6	V	288.0	-0.1	22.1	73.9
2493.406400	50.3	1000.0	1000.000	102.7	V	284.0	-0.1	23.6	73.9
2495.598400	49.5	1000.0	1000.000	103.7	V	281.0	-0.1	24.4	73.9
2498.858667	51.9	1000.0	1000.000	99.7	V	281.0	-0.1	22.0	73.9

Average Data

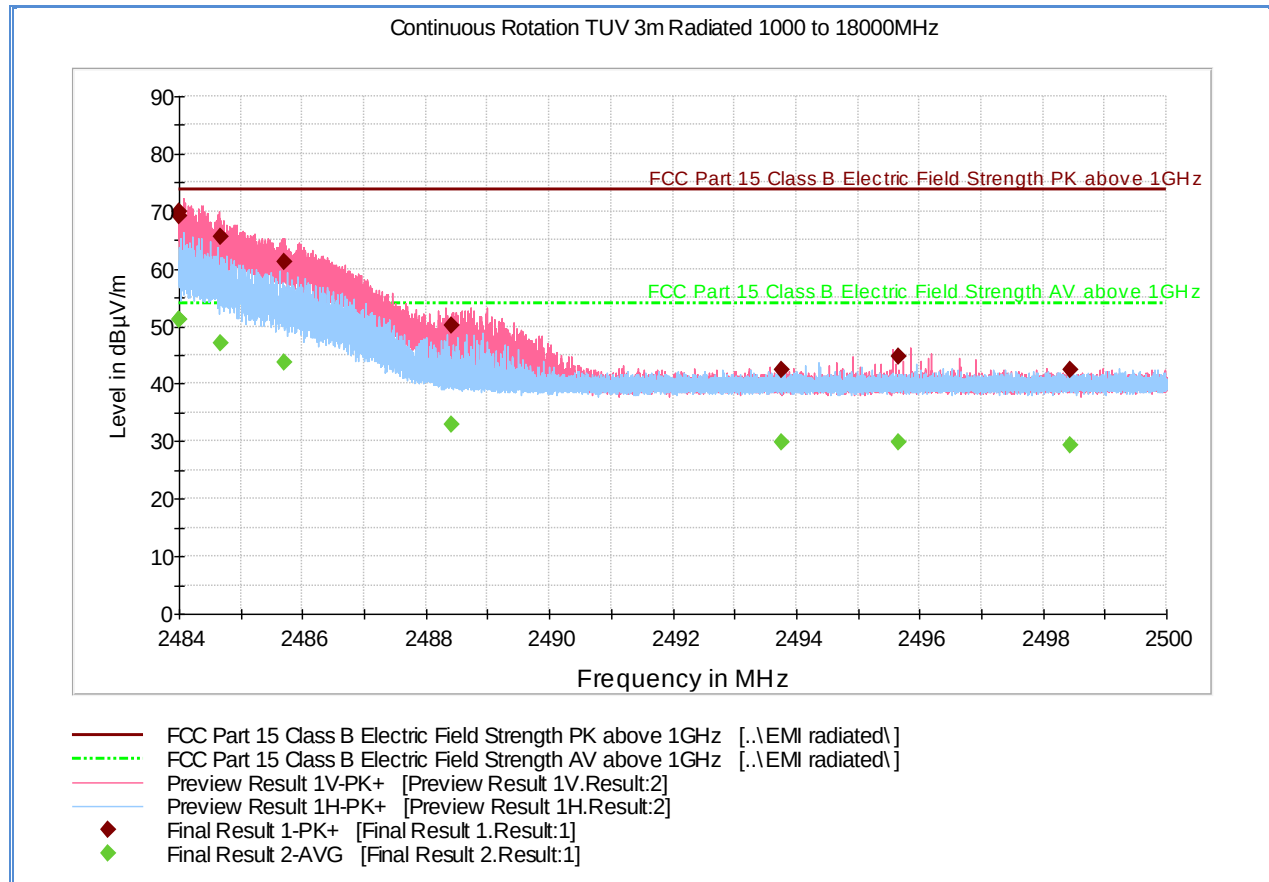
Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	49.3	1000.0	1000.000	179.5	V	288.0	-0.1	4.6	53.9
2486.092267	44.0	1000.0	1000.000	180.6	V	284.0	-0.1	9.9	53.9
2486.323200	42.6	1000.0	1000.000	180.6	V	289.0	-0.1	11.3	53.9
2490.772800	32.6	1000.0	1000.000	102.7	V	284.0	-0.1	21.3	53.9
2490.887467	31.4	1000.0	1000.000	182.6	V	289.0	-0.1	22.5	53.9
2490.899200	32.2	1000.0	1000.000	180.6	V	288.0	-0.1	21.7	53.9
2491.025600	32.2	1000.0	1000.000	180.6	V	289.0	-0.1	21.7	53.9
2491.041067	31.8	1000.0	1000.000	181.6	V	288.0	-0.1	22.1	53.9
2493.406400	31.6	1000.0	1000.000	102.7	V	284.0	-0.1	22.3	53.9
2495.598400	32.0	1000.0	1000.000	103.7	V	281.0	-0.1	21.9	53.9
2498.858667	35.3	1000.0	1000.000	99.7	V	281.0	-0.1	18.6	53.9

FCC ID PKRNVWMIFI6630
IC: 3229A-MIFI6630
Report No. SD72101251A



Test Notes: 2.4GHz notch filter removed for this test.

2.8.19 Test Results Restricted Band 2483.5MHz to 2500MHz (SISO 802.11n ht20 Channel 11)



Peak Data

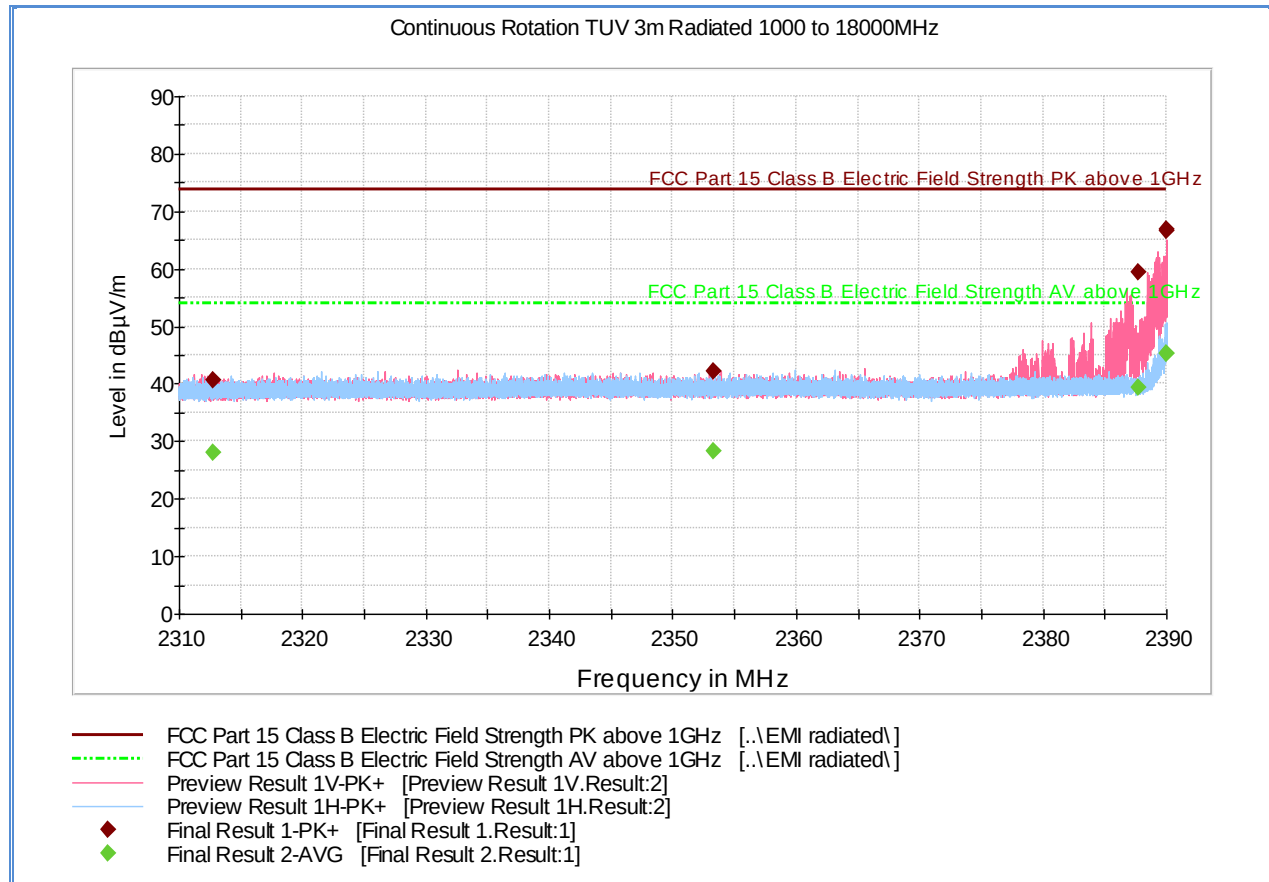
Frequency (MHz)	MaxPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2484.000000	69.1	1000.0	1000.000	182.6	V	288.0	-0.1	4.8	73.9
2484.000000	69.9	1000.0	1000.000	181.6	V	288.0	-0.1	4.0	73.9
2484.668267	65.7	1000.0	1000.000	140.7	V	55.0	-0.1	8.2	73.9
2485.696533	61.3	1000.0	1000.000	183.5	V	287.0	-0.1	12.6	73.9
2488.421867	50.1	1000.0	1000.000	164.6	V	359.0	-0.1	23.8	73.9
2493.753067	42.5	1000.0	1000.000	279.3	H	199.0	-0.1	31.4	73.9
2495.653333	44.8	1000.0	1000.000	182.6	V	287.0	-0.1	29.1	73.9
2498.452267	42.5	1000.0	1000.000	287.2	H	9.0	-0.1	31.4	73.9

Average Data

Frequency (MHz)	Average (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2484.000000	51.1	1000.0	1000.000	182.6	V	288.0	-0.1	2.8	53.9
2484.000000	51.2	1000.0	1000.000	181.6	V	288.0	-0.1	2.7	53.9
2484.668267	47.0	1000.0	1000.000	140.7	V	55.0	-0.1	6.9	53.9
2485.696533	43.7	1000.0	1000.000	183.5	V	287.0	-0.1	10.2	53.9
2488.421867	32.8	1000.0	1000.000	164.6	V	359.0	-0.1	21.1	53.9
2493.753067	29.8	1000.0	1000.000	279.3	H	199.0	-0.1	24.1	53.9
2495.653333	29.9	1000.0	1000.000	182.6	V	287.0	-0.1	24.0	53.9
2498.452267	29.2	1000.0	1000.000	287.2	H	9.0	-0.1	24.7	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.20 Test Results Restricted Band 2310MHz to 2390MHz (MIMO 802.11n ht20 Channel 1)



Peak Data

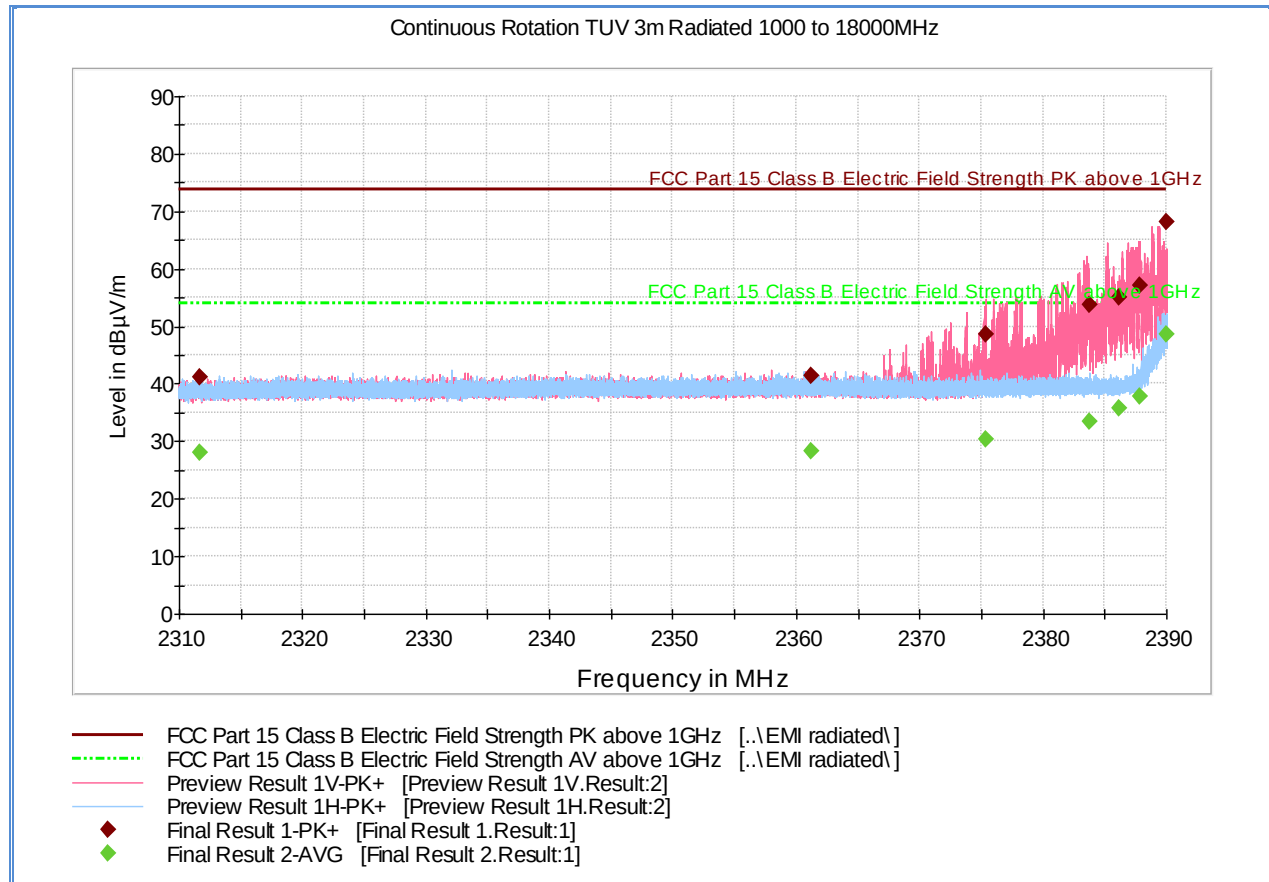
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.794667	40.5	1000.0	1000.000	131.7	V	204.0	-1.1	33.4	73.9
2353.258667	42.2	1000.0	1000.000	163.6	V	192.0	-0.8	31.7	73.9
2387.765333	59.3	1000.0	1000.000	103.7	V	287.0	-0.7	14.6	73.9
2390.000000	66.5	1000.0	1000.000	99.7	V	287.0	-0.6	7.4	73.9
2390.000000	66.8	1000.0	1000.000	100.7	V	287.0	-0.6	7.1	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2312.794667	28.0	1000.0	1000.000	131.7	V	204.0	-1.1	26.0	53.9
2353.258667	28.3	1000.0	1000.000	163.6	V	192.0	-0.8	25.6	53.9
2387.765333	39.4	1000.0	1000.000	103.7	V	287.0	-0.7	14.5	53.9
2390.000000	45.2	1000.0	1000.000	99.7	V	287.0	-0.6	8.7	53.9
2390.000000	45.2	1000.0	1000.000	100.7	V	287.0	-0.6	8.7	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.21 Test Results Restricted Band 2310MHz to 2390MHz (MIMO 802.11n ht20 Channel 2)



Peak Data

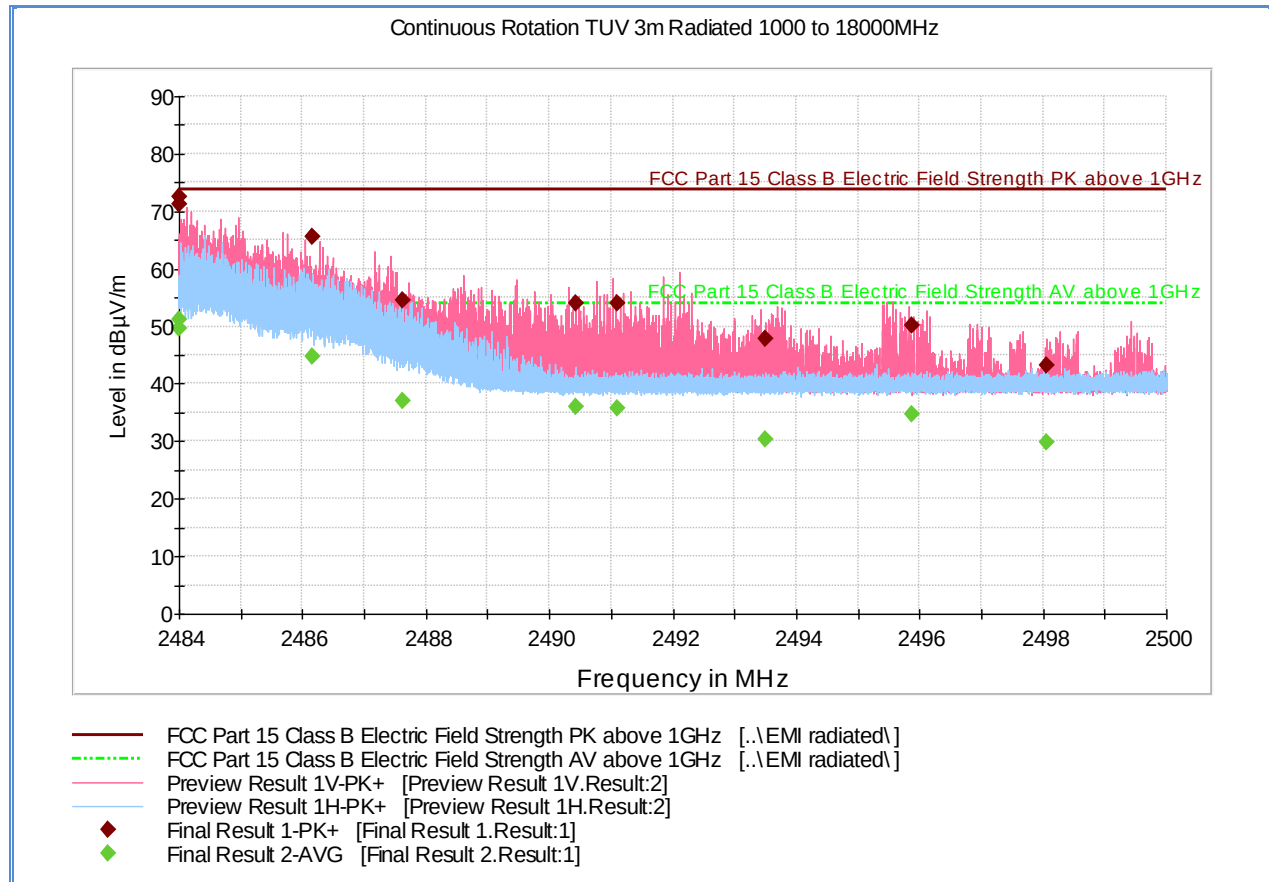
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2311.629333	41.2	1000.0	1000.000	401.7	H	222.0	-1.1	32.7	73.9
2361.218667	41.3	1000.0	1000.000	276.3	H	324.0	-0.8	32.6	73.9
2375.416000	48.5	1000.0	1000.000	103.7	V	290.0	-0.7	25.4	73.9
2383.738667	53.7	1000.0	1000.000	196.5	V	291.0	-0.7	20.2	73.9
2386.194667	54.9	1000.0	1000.000	103.7	V	291.0	-0.7	19.0	73.9
2387.810667	57.1	1000.0	1000.000	99.7	V	291.0	-0.7	16.8	73.9
2390.000000	68.1	1000.0	1000.000	100.7	V	284.0	-0.6	5.8	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2311.629333	28.1	1000.0	1000.000	401.7	H	222.0	-1.1	25.8	53.9
2361.218667	28.4	1000.0	1000.000	276.3	H	324.0	-0.8	25.5	53.9
2375.416000	30.3	1000.0	1000.000	103.7	V	290.0	-0.7	23.6	53.9
2383.738667	33.3	1000.0	1000.000	196.5	V	291.0	-0.7	20.6	53.9
2386.194667	35.7	1000.0	1000.000	103.7	V	291.0	-0.7	18.2	53.9
2387.810667	37.9	1000.0	1000.000	99.7	V	291.0	-0.7	16.0	53.9
2390.000000	48.7	1000.0	1000.000	100.7	V	284.0	-0.6	5.2	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.22 Test Results Restricted Band 2483.5MHz to 2500MHz (MIMO 802.11n ht20 Channel 10)



Peak Data

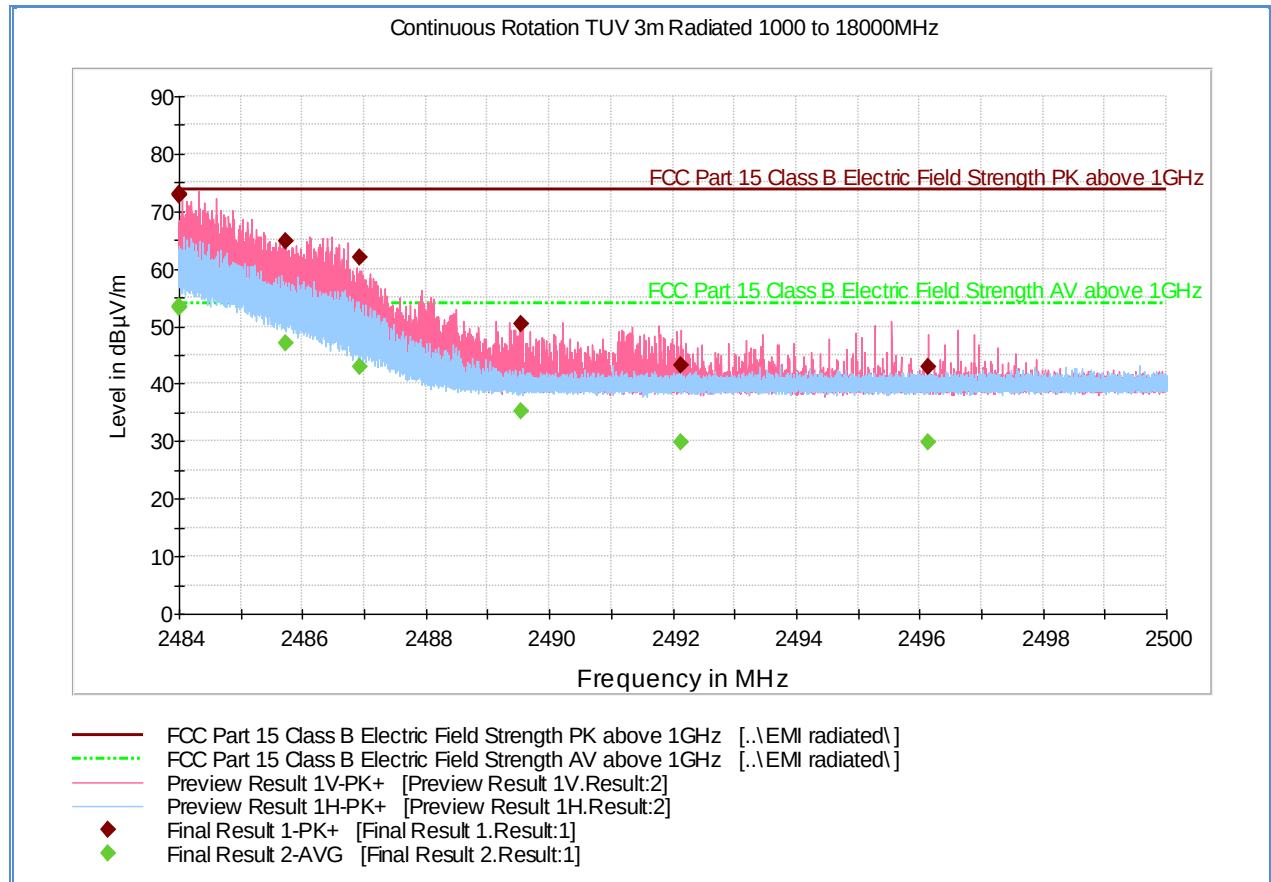
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	72.6	1000.0	1000.000	101.7	V	283.0	-0.1	1.3	73.9
2484.000000	71.2	1000.0	1000.000	180.6	V	287.0	-0.1	2.7	73.9
2486.154667	65.6	1000.0	1000.000	123.7	V	280.0	-0.1	8.3	73.9
2487.614933	54.5	1000.0	1000.000	188.5	V	286.0	-0.1	19.4	73.9
2490.420267	54.0	1000.0	1000.000	181.6	V	287.0	-0.1	19.9	73.9
2491.108800	54.1	1000.0	1000.000	181.6	V	287.0	-0.1	19.8	73.9
2493.488533	47.9	1000.0	1000.000	163.6	V	286.0	-0.1	26.0	73.9
2495.862933	50.1	1000.0	1000.000	102.7	V	286.0	-0.1	23.8	73.9
2498.061867	43.1	1000.0	1000.000	165.6	V	288.0	-0.1	30.8	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	51.1	1000.0	1000.000	101.7	V	283.0	-0.1	2.8	53.9
2484.000000	49.6	1000.0	1000.000	180.6	V	287.0	-0.1	4.3	53.9
2486.154667	44.7	1000.0	1000.000	123.7	V	280.0	-0.1	9.2	53.9
2487.614933	37.1	1000.0	1000.000	188.5	V	286.0	-0.1	16.8	53.9
2490.420267	36.1	1000.0	1000.000	181.6	V	287.0	-0.1	17.8	53.9
2491.108800	35.8	1000.0	1000.000	181.6	V	287.0	-0.1	18.1	53.9
2493.488533	30.3	1000.0	1000.000	163.6	V	286.0	-0.1	23.6	53.9
2495.862933	34.7	1000.0	1000.000	102.7	V	286.0	-0.1	19.2	53.9
2498.061867	29.9	1000.0	1000.000	165.6	V	288.0	-0.1	24.0	53.9

Test Notes: 2.4GHz notch filter removed for this test.

2.8.23 Test Results Restricted Band 2483.5MHz to 2500MHz (MIMO 802.11n ht20 Channel 11)



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	72.7	1000.0	1000.000	181.6	V	286.0	-0.1	1.2	73.9
2484.000000	73.0	1000.0	1000.000	179.5	V	284.0	-0.1	0.9	73.9
2485.730667	64.8	1000.0	1000.000	181.6	V	284.0	-0.1	9.1	73.9
2486.933333	62.0	1000.0	1000.000	180.6	V	286.0	-0.1	11.9	73.9
2489.542933	50.4	1000.0	1000.000	102.7	V	284.0	-0.1	23.5	73.9
2492.125867	43.1	1000.0	1000.000	191.5	V	301.0	-0.1	30.8	73.9
2496.149867	43.0	1000.0	1000.000	189.5	V	286.0	-0.1	30.9	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
2484.000000	53.5	1000.0	1000.000	181.6	V	286.0	-0.1	0.4	53.9
2484.000000	53.2	1000.0	1000.000	179.5	V	284.0	-0.1	0.7	53.9
2485.730667	47.1	1000.0	1000.000	181.6	V	284.0	-0.1	6.8	53.9
2486.933333	43.1	1000.0	1000.000	180.6	V	286.0	-0.1	10.8	53.9
2489.542933	35.1	1000.0	1000.000	102.7	V	284.0	-0.1	18.8	53.9
2492.125867	29.9	1000.0	1000.000	191.5	V	301.0	-0.1	24.0	53.9
2496.149867	29.8	1000.0	1000.000	189.5	V	286.0	-0.1	24.1	53.9

Test Notes: 2.4GHz notch filter removed for this test.



2.9 POWER SPECTRAL DENSITY

2.9.1 Specification Reference

Part 15 Subpart C §15.247(e)

2.9.2 Standard Applicable

(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

2.9.3 Equipment Under Test and Modification State

Serial No: SH181214900051 / Test Configuration A

2.9.4 Date of Test/Initial of test personnel who performed the test

March 11, 2015 / AC

2.9.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.9.6 Environmental Conditions/ Test Location

Test performed at TÜV SÜD America Inc. Rancho Bernardo facility

Ambient Temperature	22.3°C
Relative Humidity	30.3.%
ATM Pressure	99.8 kPa

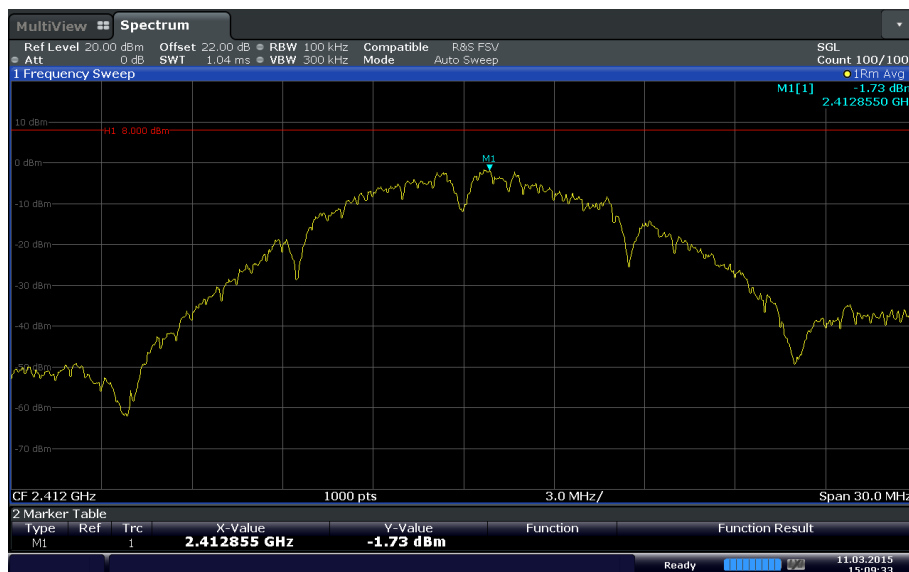
2.9.7 Additional Observations

- This is a conducted test.
- Test procedure is per Section 10.3 of KDB 558074 D01 DTS Meas Guidance v03r02 (June 05, 2014).
- An offset 22dB was added to compensate for the external attenuator and cable used.
- An offset of 31.2dB for 5745MHz, 31.0dB for 5785MHz and 31.7dB for 5825MHz were added to compensate for the external attenuator and cable used.
- Detector is RMS power averaging.
- Trace averaging mode over 100 traces.
- Sweep time is Auto Couple.
- EUT complies with 100 kHz RBW.

2.9.8 Test Results Summary

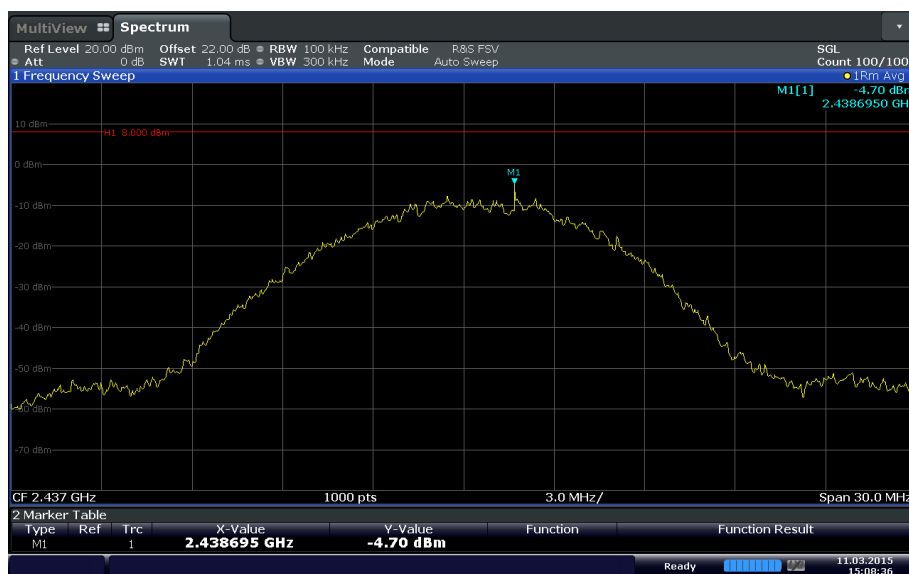
System Mode	Mode	Channel	Marker Reading using 100 kHz RBW (dBm)	PSD Limit (dBm)	Margin (dB)	Compliance
SISO	802.11b	1 (2412 MHz)	-1.73	8	9.73	Complies
		6 (2437 MHz)	-4.70	8	12.7	Complies
		11 (2462 MHz)	-4.18	8	12.18	Complies
	802.11g	1 (2412 MHz)	-26.28	8	34.28	Complies
		2 (2417 MHz)	-24.17	8	32.17	Complies
		6 (2437 MHz)	-30.87	8	38.87	Complies
		10 (2457 MHz)	-30.40	8	38.4	Complies
		11 (2462 MHz)	-31.87	8	39.87	Complies
	802.11n ht20	1 (2412 MHz)	-30.95	8	38.95	Complies
		2 (2417 MHz)	-26.73	8	34.73	Complies
		6 (2437 MHz)	-31.03	8	39.03	Complies
		10 (2457 MHz)	-13.78	8	21.78	Complies
		11 (2462 MHz)	-18.04	8	26.04	Complies
MIMO	802.11n ht20	1 (2412 MHz)	-26.36	8	34.36	Complies
		2 (2417 MHz)	-29.44	8	37.44	Complies
		6 (2437 MHz)	-29.49	8	37.49	Complies
		10 (2457 MHz)	-12.97	8	20.97	Complies
		11 (2462 MHz)	-15.77	8	23.77	Complies
SISO	802.11a	149 (5745 MHz)	-17.90	8	25.9	Complies
		157 (5785 MHz)	-17.80	8	25.8	Complies
		165 (5825 MHz)	-17.84	8	25.84	Complies
MIMO	802.11n ht20	149 (5745 MHz)	-8.65	8	16.65	Complies
		157 (5785 MHz)	-9.08	8	17.08	Complies
		165 (5825 MHz)	-8.42	8	16.42	Complies
MIMO	802.11n ht40	151 (5755 MHz)	-12.00	8	-21.0	Complies
		157 (5785 MHz)	-11.84	8	19.84	Complies
		163 (5815 MHz)	-11.80	8	-19.8	Complies

2.9.9 Test Results Plots



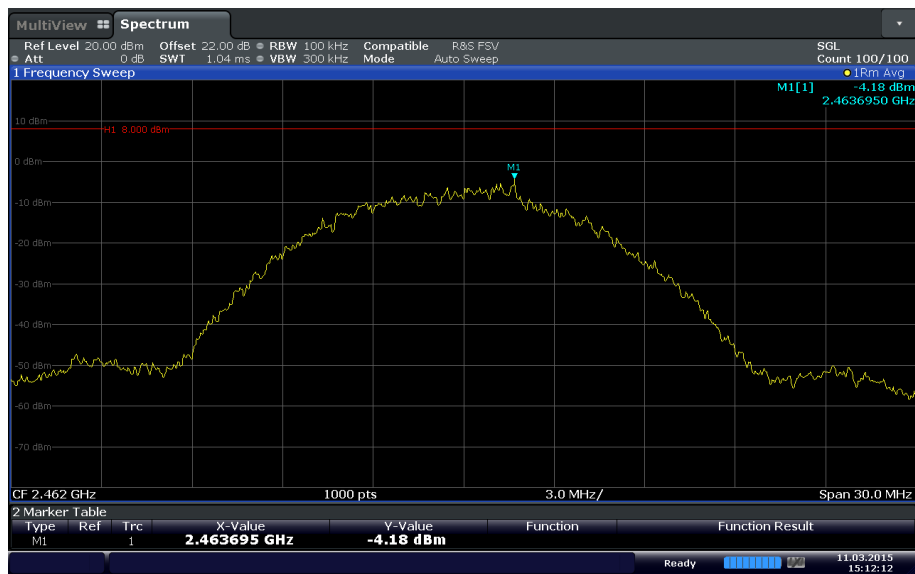
Date: 11 MAR 2015 15:09:33

802.11b SISO mode Channel 1 (2412MHz)



Date: 11 MAR 2015 15:09:36

802.11b SISO mode Channel 6 (2437MHz)



Date: 11 MAR 2015 15:12:13

802.11b SISO mode Channel 11 (2462MHz)



SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
Antenna Conducted Port Setup						
1184	Spectrum Analyzer	FSEM	849718/025	Rhode & Schwarz	06/27/14	06/27/15
7569	Series Power Meter	N1911A P-	MY45100625	Agilent	04/22/14	04/22/15
7582	Signal/Spectrum Analyzer	FSW26	101614	Rhode & Schwarz	12/22/14	12/22/15
7608	Vector Signal Generator	SMBV100A	259021	Rhode & Schwarz	06/06/14	06/06/15
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 7582 and 7608	
Conducted Test Setup						
1024	EMI Test Receiver	ESCS 30	847793/001	Rhode & Schwarz	04/05/14	04/05/15
7567	LISN	FCC-LISN-50-25-2-10	120304	Fischer Custom Comm.	07/01/14	07/01/15
8822	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	02/20/15	02/20/16
8824	20dB Attenuator	34-20-34	N/A	MCE / Weinschel	02/20/15	02/20/16
Radiated Test Setup						
1002	Bilog Antenna	3142C	00058717	ETS-Lindgren	01/30/14	01/30/16
7575	Double-ridged waveguide horn antenna	3117	00155511	EMCO	04/08/14	04/08/15
8628	Pre-amplifier	QLJ 01182835-JO	8986002	QuinStar Technologies Inc.	04/03/14	04/03/15
1040	EMI Test Receiver	ESIB40	100292	Rhode & Schwarz	08/29/14	08/29/15
1049	EMI Test Receiver	ESU	100133	Rhode & Schwarz	03/11/15	03/11/16
1016	Pre-amplifier	PAM-0202	187	PAM	12/10/14	12/10/15
6815	2.4GHz Band Notch Filter	BRM50702	008	Micro-Tronics	Verified by 7608 and 7582	
Miscellaneous						
6792	Multimeter	3478A	2911A70964	Hewlett Packard	08/12/14	08/12/15
1072	DC Power Supply	E3610A	KR51311519	Hewlett Packard	Verified by 6792	
	Test Software	EMC32	V8.53	Rhode & Schwarz	N/A	

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

3.2.1 Radiated Emission Measurements (Below 1GHz)

Contribution		Probability Distribution Type	Probability Distribution x_i	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.45	0.26	0.07
2	Cables	Rectangular	0.50	0.29	0.08
3	Preamp	Rectangular	0.50	0.29	0.08
4	Antenna	Rectangular	0.75	0.43	0.19
5	Site	Rectangular	3.89	2.25	5.04
6	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty (u_c):					2.41
Coverage Factor (k):					2
Expanded Uncertainty:					4.82

3.2.2 Radiated Emission Measurements (Above 1GHz)

Contribution		Probability Distribution Type	Probability Distribution x_i	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.57	0.33	0.11
2	Cables	Rectangular	0.70	0.40	0.16
3	Preamp	Rectangular	0.50	0.29	0.08
4	Antenna	Rectangular	0.37	0.21	0.05
5	Site	Rectangular	3.89	2.25	5.04
6	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty (u_c):					2.40
Coverage Factor (k):					2
Expanded Uncertainty:					4.81

3.2.3 Conducted Antenna Port Measurement

Contribution		Probability Distribution Type	Probability Distribution x_i	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.34	0.20	0.04
2	Cables	Rectangular	1.00	0.58	0.33
3	EUT Setup	Rectangular	0.50	0.29	0.08
Combined Uncertainty (u_c):					0.67
Coverage Factor (k):					1.96
Expanded Uncertainty:					1.32

3.2.4 Conducted Emission Measurements

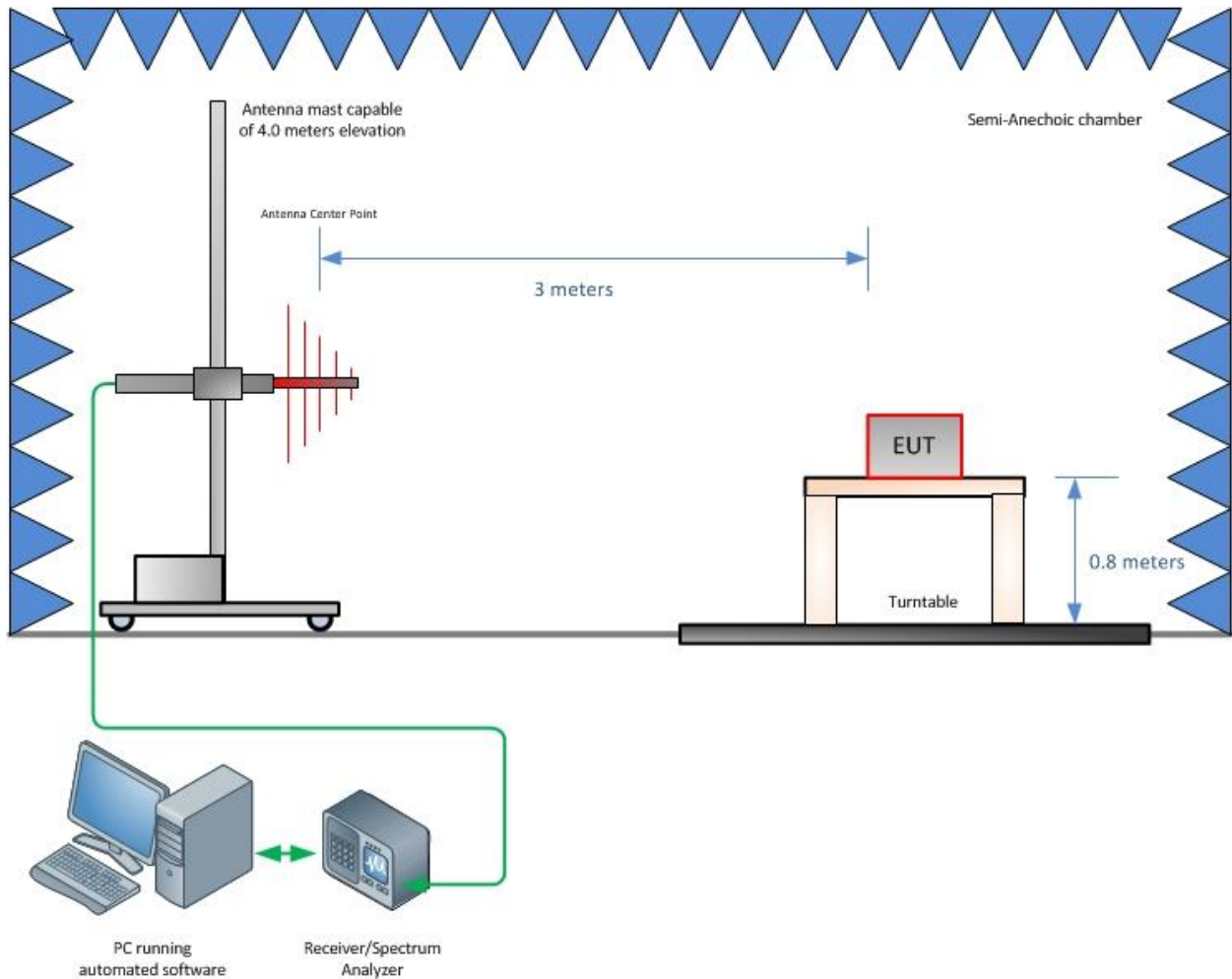
Contribution		Probability Distribution Type	Probability Distribution x_i	Standard Uncertainty $u(x_i)$	$[u(x_i)]^2$
1	Receiver/Spectrum Analyzer	Rectangular	0.36	0.21	0.04
2	Cables	Rectangular	0.50	0.29	0.08
3	LISN	Rectangular	0.66	0.38	0.15
4	Attenuator	Rectangular	0.30	0.17	0.03
5	EUT Setup	Rectangular	1.00	0.58	0.33
Combined Uncertainty (u_c):					0.80
Coverage Factor (k):					2
Expanded Uncertainty:					1.59



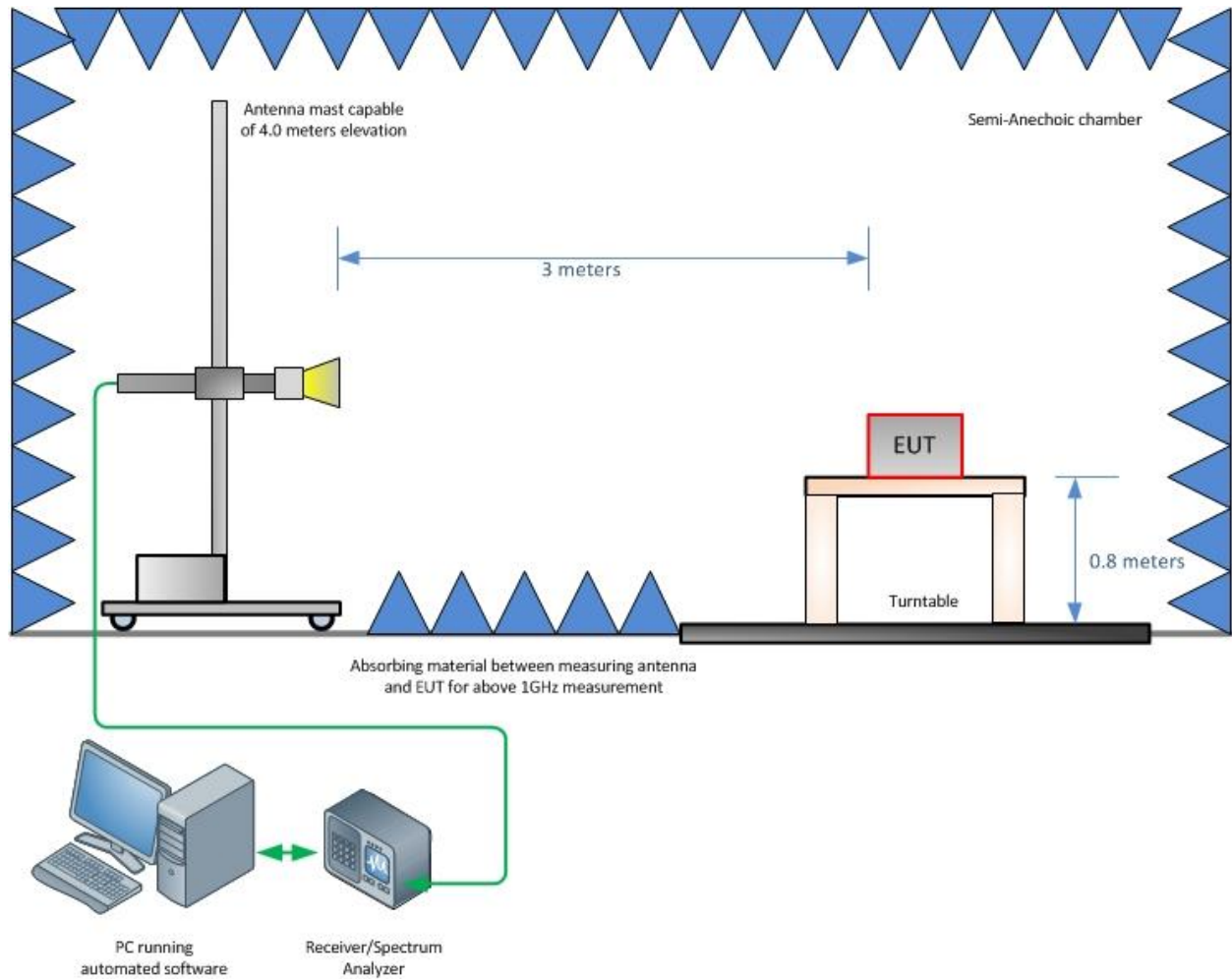
SECTION 4

DIAGRAM OF TEST SETUP

4.1 TEST SETUP DIAGRAM



Radiated Emission Test Setup (Below 1GHz)



Radiated Emission Test Setup (Above 1GHz)



SECTION 5

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